

1971-1972
CATALOG

The Graduate



School

Bulletin of Bridgewater State College

1971-72 CALENDAR OF THE GRADUATE SCHOOL

FALL TERM

1 September	Last date for receiving completed applications for October admission
7,8,9,10	Registration in Continuing Studies
10	Registration in Day Session
13	Classes begin
24	Last date for changes in registration
1 October	Last filing date for the November Comprehensive Examinations
11	No Classes - Columbus Day
23	Graduate Record Examinations (Lecture Hall, Conant Science Building)
25	No Classes - Veterans' Day
1-30 November	Comprehensive Examinations
24-29	Thanksgiving Recess
10 December	Last date for receiving completed applications for February admission
11	Graduate Record Examinations (Lecture Hall, Conant Science Building)
17	Christmas Recess
3 January	Classes resume
7	Last date for filing Application for Degree for students who expect to receive the diploma in February
7	Last day of classes in Day Session
10	Reading Day in Day Session
15	Graduate Record Examinations (Lecture Hall, Conant Science Building)
20	Last Day of Classes in Continuing Studies
20	Last date for filing Petition for Acceptance of Transfer Credits for students who anticipate the completion of degree work in June

SPRING TERM

28 January	Registration in Day Session
31	Classes begin in Day Session
1,2,3,4 February	Registration in Continuing Studies
7	Classes begin in Continuing Studies
18	Last date for changes in registration
21	No classes - Washington's Birthday
1 March	Last filing date for April Comprehensive Examinations
31	Last date for receiving completed applications for May admission
1-30 April	Comprehensive Examinations
7	Last date for filing Application for Degree for June Commencement
22	Graduate Record Examinations (Lecture Hall, Conant Science Building)
19 May	Last day of classes in Day Session
22	Reading Day in Day Session
26	Last date for filing for July Comprehensive Examinations
1 June	Last day of classes in Continuing Studies
1	Last date for filing Petition for Acceptance of Transfer Credits for students who anticipate the completion of degree work in August
4	Commencement

SUMMER TERM

17 June	Graduate Record Examinations (Lecture Hall, Conant Science Building)
28,29,30	Registration
1-30 July	Comprehensive Examinations
3	Classes begin
6	Last date for changes in registration
14	Last date for filing Application for Degree for students who expect to receive the diploma in August
11 August	Last day of classes in Continuing Studies
11	Last date for filing Petition for Acceptance of Transfer Credits for students who anticipate the completion of degree work in February

BULLETIN OF BRIDGEWATER STATE COLLEGE

FOUNDED IN 1840



**GRADUATE SCHOOL
1971-1972**

**The Commonwealth of Massachusetts
DIVISION OF STATE COLLEGES**

This Bulletin is a guide for information and not a contract.

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Assistant Director of the Student Union	Thomas P. Walsh, M.Ed.
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Creative Arts

Education

Humanities

Natural Sciences and Mathematics

Natural Sciences and Mathematics

Social Sciences

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Burnell School

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Frances Cormier

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Mary P. McCormack, R.N.
Annette L. MacDonald, R.N.

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Charge Nurse

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Principal Bookkeeper

Purchasing and Accounting

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Student Payment

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Ethel Pappas

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Dean of Administration and Director of the
Division of Continuing Studies

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Director of the Division of Humanities

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Director of the Division of the Behavioral Sciences

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Acting Director of the Division of the Creative Arts

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Department of Secondary Education

Commonwealth Professor Annabelle McConnell Melville, Ph.D.
Department of History

Secretary to the Graduate Committee:

Mr. Paul Francis Wright, M.A.
Assistant to the Dean of the Graduate School

Ex officio:

President Adrian Rondileau, Ph.D.
Dean Lee Francis Harrington, M.Ed.
Academic Dean and Registrar



Faculty—1970-71 71

The following were members of the faculty during the academic year 1970-1971. These listings do not take into account appointments, degrees received, promotions, resignations, etc., which were effective subsequent to July 8, 1971.

For a listing of those new faculty members to be appointed effective September 1971, see page 23.

MURRAY ABRAMSON, A.B. (Brooklyn College), M.A. (Columbia University), M.A. (Syracuse University), Ed.D. (Columbia University), Associate Professor of Mathematics and Chairman of the Department of Mathematics

MARCIANDERSON, B.A. (University of Rochester), M.A., Ph.D. (Brandeis University), Assistant Professor of English

CHARLES FRANCIS ANGELL, B.A. (Colby College), M.A. (University of Massachusetts), Instructor in English

STANLEY STEPHEN ANTONIOTTI, B.A. (Marietta College), M.A. (Lehigh University), Instructor in Economics

ROBERT CHARLES ARRUDA, A.B. (Brown University), B.S. (Georgetown University), M.A.T. (Brown University), M.A. (Middlebury College), Associate Professor of Romance Languages and Chairman of the Department of Modern Foreign Languages

GENEVIEVE MARY ASH, Adj. in Arts (Harvard University), M.A. (Suffolk University), Assistant Professor of Education

ARTHUR FREDERIC BAKER, B.A. (Hyannis State Teachers College), M.Ed. (Bridgewater State College), Associate Professor of Education, Chairman of the Department of Secondary Education and Director of the Division of Teacher Preparation and Placement

ROBERT JACKSON BARNETT, A.B. (Juniata College), M.A. (Pennsylvania State University), Associate Professor of Speech and Chairman of the Department of Speech and Theatre

MARIANNE BARRY, A.B. (Mount Saint Scholastica College), M.A., Ph.D. (University of Michigan), Assistant Professor of Modern Foreign Languages

- RALPH SAMUEL BATES, A.B., A.M. (University of Rochester), A.M., Ph.D. (Harvard University), Professor of History
- ROBERT JOSEPH BENT, B.S. (Boston College), Ed.M. (Boston State College), M.A. (San Diego State College), Associate Professor of Mathematics
- PETER ALEXANDER BIZINKAUSKAS, B.A. (Maryknoll College), M.Ed. (Boston State College), Ed.D. (Boston University), Assistant Professor of Elementary Education (Appointed January, 1971)
- PAUL BLACKFORD, A.A. (Riverside College), M.A. (University of Hawaii), Assistant Professor of Geography
- RAYMOND LORENZO BLANCHARD, B.S. (Southeastern Massachusetts University), M.Ed. (Bridgewater State College), M.S. (Rensselaer Polytechnic Institute), Associate Professor of Physics
- BEATRICE IRENE BOUCHARD, B.S. (Catholic Teachers College of Providence), M.A. (Boston College), M.S. (Simmons College), Associate Professor of Library Science and Chairman of the Department of Library Science
- ROBERT FRANCIS BOUTILIER, A.B., M.A., Ph.D. (Boston University), Associate Professor of Earth Sciences
- JOHN THOMAS BOYKO, B.S. (Edinboro State College), M.F.A. (Rhode Island School of Design), Assistant Professor of Art
- EDWARD AUGUST BRAUN, B.S. (Central Connecticut State College), M.Ed. (Boston University), Instructor in Physical Education for Men
- JAMES ROBERT BRENNAN, B.S., M.S. (Virginia Polytechnic Institute), Ph.D. (University of Maryland), Professor of Botany
- ROBERT ALLEN BRIGGS, B.A., M.A. (Boston University), Associate Professor of German
- MORGAN CORNELIUS BROWN, B.A. (Paine College), M.A., Ph.D. (Ohio State University), Professor of Sociology, and Chairman of the Department of Sociology
- RICHARD FRANK CALUSDIAN, B.A. (Harvard University), M.S. (University of New Hampshire), Ph.D. (Boston University), Professor of Physics and Chairman of the Department of Physics
- PRISCILLA LUCAS CHAPMAN, B.S. (Bridgewater State College), Laboratory Instructor in Education
- BARBARA ANNE CHELLIS, B.S. (Simmons College), M.A., Ph.D. (Brandeis University), Professor of English
- DAVID ROSS CHENEY, B.A. (Arizona State University), Ph.D. (University of Miami), Assistant Professor of Philosophy and Chairman of the Department of Philosophy
- JOSEPH BIGGI CHICCARELLI, B.S., M.A. (Boston College), Associate Professor of Mathematics, Director of Continuing Studies and Dean of Administration
- WILMON BLACKMAR CHIPMAN, A.B. (Harvard University), A.M. (Dartmouth College), Ph.D. (University of Illinois), Professor of Chemistry and Chairman of the Department of Chemistry
- DUANE LEE CHRISTENSEN, B.S. (Massachusetts Institute of Technology), B.D. (California Baptist Seminary), Assistant Professor of History

- ELIZABETH FAHEY CIRINO, B.S. (Bridgewater State College), A.M., Ph.D. (Boston University), Professor of Zoology
- STANLEY LUTHER CLEMENT, B.S. (Colby College), M.A. (University of Maine), Ed.D. (Boston University), Professor of Education, Chairman of the Department of Educational Services and Director of the Division of Professional Education
- GUY CHANDLER CLIFFORD, B.S. (Tufts College), M.A. (University of Massachusetts), Assistant Professor of Political Science
- ANN OLDHAM COAKLEY, B.S. (Boston University), M.Ed. (University of North Carolina), Assistant Professor of Physical Education for Women
- WILLIAM ROSWELL COLE, JR., B.A. (University of Massachusetts), A.M., Ph.D. (Boston University), Professor of History
- CATHERINE EVELYN COMEAU, B.S. (Boston University), M.A. (Columbia University), Ed.D. (Boston University), Professor of Physical Education for Women and Chairman of the Department of Health and Physical Education for Women
- JOSEPH JOHN CORKERY, A.B., A.M. (Boston College), Associate Professor of Philosophy
- ANTHONY CHARLES COTUGNO, B.S. (Northeastern University), M.Ed. (Boston State College), M.A. (Boston College), Assistant Professor of Spanish
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- ROBERT ALPHONSE DANIEL, A.B. (Howard University), M.A. (State University of Iowa), Ed.D. (Pennsylvania State University), Professor of Education
- ROBERT DALE DAWLEY, B.A. (St. Lawrence University), M.A. (Middlebury College), Assistant Professor of French
- JOHN PETER DEASY, A.B. (Providence College), Ed.M., Ed.D. (Boston University), Professor of Education
- DAVID PAUL DEEP, B.S. (University of Bridgeport), M.S. (Springfield College), Dean of Men
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- HAROLD FRANCIS DELISLE, B.S. (Bridgewater State College), M.A. (Boston College), Assistant Professor of English
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- ARMAND EUGENE DESAUTELS, B.L. (Laval University), B.A. (St. Bernard's College), M.A. (Assumption College), Instructor in French
- WAYNE DICKINSON, B.S., M.S., Ed.D. (Syracuse University), Associate Professor of Education, Chairman of the Elementary Education Department and Associate Director of Teacher Preparation and Placement
- ROBERT JOHN DILLMAN, B.S. (State University Teachers College at New Paltz), M.S. (Pennsylvania State University), Instructor in Geography

- VINCENT JAMES DINARDO, B.S. (Bridgewater State College), Ed.M., Ed.D. (Boston University), Professor of Education and Dean of Undergraduate Studies
- GERALD JOSEPH DOIRON, B.A. (University of Maine), M.A. (University of Rhode Island), Ph.D. (Boston University), Associate Professor of History
- PHILIP RYAN DOOLEY, A.B. (St. Anselm's College), Ed.M. (Tufts University), Associate Professor of Guidance and Director of Guidance
- MARIAN CLAIRE DOYLE, B.S., M.S. (State University of New York at Potsdam), Assistant Professor of Education
- MARY CARROLL DOYLE, B.S., M.Ed. (Bridgewater State College), Assistant Professor of Education
- SUSAN ELLY DRAKE, B.S.Ed. (Northern Illinois University), M.S. (University of Illinois), Instructor in Geography
- JOHN JONES DROEGE, B.S., M.A., M.A.T., M.F.A. (University of Notre Dame), Assistant Professor of Art and Chairman of the Department of Art
- KARIN VAN LISSEL DUBIN, A.B. (Parsons College), M.A. (University of Chicago), M.A. (University of Michigan), Ph.D. (Columbia University), Associate Professor of Speech and Theatre
- LEE ANNE FIRESTONE DUNNE, B.S. (Northwestern University), M.A. (Hunter College), Assistant Professor of Speech and Theatre
- KATHERINE EKAS, B.S. (Springfield College), M.Ed. (Pennsylvania State University), Instructor in Physical Education for Women
- WARREN DAVID ENGLUND, B.A. (Simpson College), M.S. (Drake University), Associate Professor of Education
- RICHARD ENRIGHT, B.A., M.S., Ph.D. (Rutgers University), Assistant Professor of Earth Sciences
- KENNETH FALKNER, B.Mus.Ed. (Westminster College), M.A. (University of Connecticut), Ph.D. (University of Iowa), Professor of Music and Chairman of the Department of Music
- CHARLES FANNING, JR., A.B., M.A.T. (Harvard University), M.A. (University of Pennsylvania), Instructor in English
- HENRY JOSEPH FANNING, JR., B.S. (Boston College), M.Ed. (Bridgewater State College), Assistant Professor of Education and Director of Undergraduate Admissions
- RALPH SANBORN FELLOWS, A.B. (Tufts University), M.A., Ph.D. (Boston University), Associate Professor of Earth Sciences
- DOROTHY ROSE FERRY, Mus. B., M.Mus.Ed. (Boston University), Associate Professor of Music
- JORDAN DOMINIC FIORE, B.S. (Bridgewater State College), A.M., Ph.D. (Boston University), Professor of History, Chairman of the Department of History, Acting Chairman of the Department of Economics and Director of the Division of Social Sciences
- ROBERT EDMUND FITZGIBBONS, A.B. (Tufts University), M.Ed. (Temple University), Assistant Professor of Education

- JAMES FRANK FRANCIS, A.B. (Brown University), M.Ed., D.Ed. (Boston University), Assistant Professor of Education (Resigned January, 1971)
- RICHARD FREEMAN, B.S. (Southeastern Massachusetts University), M.B.A. (Suffolk University), Instructor in Economics
- ROBERT KENNETH FRIEDMAN, A.B., M.A. (Brooklyn College), Assistant Professor of Speech and Theatre
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- MARILYN HAYDEN FURLONG, B.S. (Bridgewater State College), M.A. (Clark University), Assistant Professor of Geography
- PAUL LAURENCE GAINES, B.S. (Xavier University), M.Ed. (Bridgewater State College), Assistant in Academic Administration, Director of the Program for the Recruitment and Retention of Special Students, and Instructor of Education
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- THOMAS ALLEN KNUDSON, B.S. (Wisconsin State University at LaCrosse), M.S. (Springfield College), Associate Professor of Physical Education for Men
- SHIRLEY JANE KRASINSKI, B.S. (University of Connecticut), M.S. (University of Massachusetts), Assistant of Professor in Physical Education for Women
- GUTALA KRISHNAMURTI, B.A., M.A. (Andhra University), Ph.D. (Saugor University), Assistant Professor of English
- FRANK JAMES LAMBIASE, A.B. (Stonehill College), M.S. (Clarkson College of Technology), Assistant Professor of Mathematics
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- OLIVE LEE, A.B. (Radcliffe College), B.S. (University of North Carolina), Instructor in Library Science
- THOMAS LEE, B.S. (Bridgewater State College), M.S. (Syracuse University), Assistant Professor of Instructional Media
- HARRY AUGUST LEHMANN, B.S., M.Ed. (Springfield College), Associate Professor of Physical Education and Chairman of the Department of Health and Physical Education for Men
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- STEPHEN LEVINE, B.A. (Moravian College), M.A. (University of Denver), Assistant Professor of Speech and Theatre
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- ROBERT DOUGLAS MACCURDY, B.S. (University of Massachusetts), M.S. (Michigan State University), Ed.D. (Boston University), Professor of Education
- AGRIPPINA ANNE MACEWICZ, B.S. (Worcester State College), M.A., Ph.D. (Clark University), Professor of Geography

- EMANUEL MAIER, B.A., M.S. (City College of New York), Ph.D. (New York University), Ph.D. (Clark University), Professor of Geography and Chairman of the Department of Earth Sciences and Geography
- HENRY MYRON MAILLOUX, B.S. (Fordham University), M.A. (Columbia University), Associate Professor of Mathematics
- MICHAEL MAKOKIAN, A.B. (Rhode Island College), M.A. (Rutgers University), Associate Professor of Mathematics
- VAHE MARDIROGS MARGANIAN, B.S. (San Francisco State College), M.S., Ph.D. (Clemson University), Associate Professor of Chemistry
- PETER MAZZAFERRO, B.A. (Centre College), M.Ed. (Springfield College), Assistant Professor of Physical Education for Men
- PETER MCENTEGGART, B.Ed. (University of London), B.S. (University of Santa Clara), M.A., Ph.D. (University of California), Associate Professor of Mathematics
- CHARLES MCGINNIS, A.B. (Tufts), M.A. (Boston College), Ph.D. (Columbia University), Associate Professor of English
- OWEN THOMAS MCGOWAN, A.B. (Maryknoll College), M.S. in L.S. (Catholic University), Librarian
- MARGARET MARY MCGRATH, A.B., M.S. (Hunter College), Instructor in Education
- FREDERICK A. MEIER, B.S., M.S. (Boston College), D.H.S. (Indiana University), Professor of Education
- ANNABELLE MCCONNELL MELVILLE, A.B., M.A. (Albany State College for Teachers), Ph.D. (The Catholic University of America), Commonwealth Professor of History
- RICHARD MITCHELL MENICE, B.S. (Bridgewater State College), M.Ed. (Northeastern University), Assistant Professor of Education
- LAWRENCE BRONISLAW MISH, A.B. (University of Connecticut), A.M., Ph.D. (Harvard University), Professor of Botany
- SUSAN JANE MISKELLY, B.A. (Towson State College), M.A. (Bowling Green University), Instructor in Speech and Theatre
- JOSEPH GRAESSLE MOORE, B.A. (Hamline University), B.D. (Seabury-Western College), M.A., Ph.D. (Northwestern University), Professor of Anthropology, Chairman of the Department of Anthropology and Director of the Division of the Behavioral Sciences
- THOMAS EUGENE MOORE, A.B. (Stonehill College), M.S. (University of Notre Dame), Instructor in Mathematics
- WALTER ARTHUR MORIN, A.B. (Merrimack College), M.S. (Boston College), Ph.D. (Clark University), Associate Professor of Zoology
- JOHN FORDYCE MYERS, A.B. (Bates College), A.M. (Boston University), Assistant Professor of History
- RITA KOHLER NADAL, B.S. (Framingham State College), Ed.M. (Boston University), Associate Professor of Education

- MARION EMMA NELSON, B.S., M.Ed. (Bridgewater State College), Instructor in Education
- JAMES KERON NERNEY, A.B. (University of Notre Dame), M.A. (Boston College), Assistant Professor of English
- RICHARD ARTHUR NEUBAUER, B.S. (Clarion State College), M.S.L.S. (State University of New York), Instructor in Library Science
- MARY NOEL, A.B. (Radcliffe College), M.A., Ph.D. (Columbia University), Associate Professor of History
- BETTY ANN NOYES, B.S., M.Ed. (Bridgewater State College), Instructor in Education
- ADELINE DUPUY OAKLEY, B.S. (Bridgewater State College), M.L.S. (Simmons College), Assistant Professor of Library Science
- LUCILE O'CONNELL, B.A. (Brooklyn College), Assistant Professor of History
- ARTHUR CARLISLE OIEN, B.A. (Concordia College), M.A. (University of Minnesota), Associate Professor of History
- LENORE MARIE PADULA, B.A. (Emmanuel College), M.A. (Boston College), M.A. (Middlebury College), Assistant Professor of Modern Foreign Languages
- JOSEPH MICHAEL PAGANO, B.S. (Massachusetts Institute of Technology), M.S. (Boston College), Assistant Professor of Chemistry
- FELIX STANLEY PALUBINSKAS, S.B. (Massachusetts Institute of Technology), A.M.T. (Harvard University), Ph.D. (Iowa State University), M.D. (Tufts University), Professor of Physics
- PATRICIA ANN PHILLIPS, B.S. (Bridgewater State College), Ed.M. (Boston University), Associate Professor of Health and Physical Education for Women
- WAYNE RICHARD PHILLIPS, B.S. (Bridgewater State College), M.A. (University of Connecticut), Assistant Professor of Education
- WILLIS NORMAN PITTS, A.B. (Talladega College), M.A., Ph.D. (University of Michigan), Associate Professor of Speech and Theatre
- BARBARA FREEMAN POE'SEPP, B.S., M.Ed. (Bridgewater State College), Assistant Professor of Education
- JOHN HEFFRON PORTER, B.S., M.A. (Columbia University), Instructor in English
- LOIS POULE, A.B. (Emmanuel), M.A. (Indiana University), Instructor in English
- M. BETH POULO, B.S. (Skidmore College), M.M. (New England Conservatory of Music), Instructor in Music
- RICHARD WAYNE QUINDLEY, A.B., M.S. (Northeastern University), Assistant Professor of Mathematics
- CHRISTIANA POLLAK REORDAN, B.S. (Oberlyzeum College, Germany), M.A. (Fordham University), Assistant Professor of Modern Foreign Languages

- HAROLD GUY RIDLON, A.B. (Tufts University), M.A., Ph.D. (Harvard University), Professor of English, Chairman of the Department of English and Director of the Division of Humanities
- DAVID RINALD, A.B., M.S. (University of Pennsylvania), Instructor in Music
- ADRIAN RONDILEAU, A.B. (The City University of New York), M.A., Ph.D. (Columbia University), President
- HENRY ROSEN, A.B. (Dartmouth College), A.M., Ed.D. (Boston University), Professor of Instructional Media and Chairman of the Department of Instructional Media
- MAURICE ROTSTEIN, B.S. (City College of New York), M.A., Ph.D. (New York University), Associate Professor of History
- ELLEN BOLIN RUCKER, B.S. (Massachusetts State College at Hyannis), M.Ed. (Bridgewater State College), Instructor in Education
- MARJORIE ATWOOD RUGEN, B.S. (Boston University), M.A. (New York University), Instructor in Physical Education for Women
- IGNATIUS PHILIP SCALISI, B.S., M.S. (Northeastern University), Assistant Professor of Mathematics
- HAROLD PAUL SCHAEFER, JR., B.A., Ph.D., (University of Connecticut), Assistant Professor of Botany
- LOUIS SCHIPPERS, A.B. (Phillips University), B.D. (Texas Christian University), Ph.D. (Boston University), Associate Professor of Psychology
- HAZEL LAROCHELLE SCHOPP, B.S. (State Teacher's College at Hyannis), M.Ed. (Bridgewater State College), Instructor in Physical Education for Women
- JAMES RUDOLPH SCROGGES, A.B. (Northeastern University), B.D. (Harvard Divinity School), Ph.D. (Boston University), Associate Professor of Psychology
- MARY CINGOLANI SHAPIRO, B.S. (Bridgewater State College), M.A. (DePaul University), Assistant Professor of French
- ELLEN MARIE SHEA, B.S. (Bridgewater State College), M.Ed. (Boston University), Ph.D. (University of Connecticut), Professor of Education, Dean of Students and Dean of Women
- SAMUEL NORMAN SHEINFELD, A.B., A.M. (Harvard University), M.Ed. (Boston State College), Ed.D. (Harvard University), Professor of English
- PHILIP THOMAS SILVIA, JR., B.A. (Providence College), M.A. (Fordham University), Assistant Professor of History
- DONALD CLAYTON SIMPSON, B.Ed. (Keene Teachers College), M.S. (Clarkson College of Technology), M.A. (Rutgers State University), Assistant Professor of Mathematics
- DIANNE VAN PUTTEN SMITH, B.S. (Bridgewater State College), Burnell School Librarian
- GEORGE SMITH, JR., A.B. (Williams College), A.M., Ph.D. (Harvard), Assistant Professor of English
- JOHANNE SMITH, B.S. (East Stroudsburg State College), M.S. (University of Illinois), Assistant Professor of Physical Education for Women

- MARGARET BORDEN SOUZA, B.S. (Bridgewater State College), M.S. (Boston College), Associate Professor of Chemistry
- BENJAMIN ARTHUR SPENCE, B.S. (Bridgewater State College), M.A., Ph.D. (University of Wisconsin), Associate Professor of History
- DORIS MARGARET SPRAGUE, B.S., M.Ed. (Bridgewater State College), Associate Professor of Education and Principal of the Burnell School
- JUDITH MCNUTT STANTON, B.A., M.A. (University of Maine), Instructor in English
- REED STEWART, B.A. (Amherst College), M.A. (Clark University), Assistant Professor of Anthropology and Geography
- JEAN FRANCES STONEHOUSE, B.A. (Bridgewater State College), M.A. (Boston University), Instructor in History
- KENNETH SUMNER, B.S. (Union College), Ph.D. (State University of New York), Assistant Professor of Chemistry (Appointed part-time January, 1971)
- ROBERT FRANCIS SUTHERLAND, A.B. (Stonehill College), M.S. (University of Missouri at Kansas City), Instructor in Mathematics
- EDWARD CARL SWENSON, B.S. (Boston College), Ed.M. (Boston University), Associate Professor of Physical Education for Men
- DORIS EMMA TEBBETTS, B.S. (Massachusetts College of Art), M.A. (University of Minnesota), Associate Professor of Art
- MARJORIE TEITELBAUM, A.B. (Wellesley College), M.Ed. (Bridgewater State College), Instructor in Education
- ABRAHAM VAZHAYIL THOMAS, B.A., M.A. (University of Madras, India), S.T.M. (Union Theological Seminary), Th.D. (Boston University), Assistant Professor of Sociology
- MARY LOU THORNBURG, B.S. (Wisconsin State University at LaCrosse), M.S. (University of North Carolina at Greensboro), Ph.D. (University of Iowa), Associate Professor of Physical Education for Women
- GERALD JOSEPH THORNELL, B.A. (Curry College), M.S. (Central Connecticut College), Assistant Professor of Education
- PHYLLIS BROOKS TOBACK, A.B. (Barnard College), M.A. (New York University), Assistant Professor of English
- SHARON TUFTS, B.S. (Bridgewater State College), M.S.P.E. (University of North Carolina), Ph.D. (University of Iowa), Assistant Professor of Physical Education for Women
- PAULA VADEBONCOER, B.A. (Merrimack College), M.A. (Boston College), Ph.D. (University of Wisconsin), Instructor in English
- CORA MAY Vining, B.S. (Bridgewater State College), A.M. (Boston University), B.S. (Simmons College), Associate Professor of Library Science
- WILLIAM JAMES WALL, JR., B.S., M.S. (University of Massachusetts), Ph.D. (University of California), Professor of Zoology
- ROBERT WARD, B.S. (Bridgewater State College), Ed.M. (Boston University), Instructor in Instructional Media

- RICHARD JONATHAN WARYE, B.Ed., M.A., Ph.D. (Ohio State University), Associate Professor of Speech and Theatre
- EUGENIA B. WATSON, B.S. in Ed. (A&T College), M.Ed. (Bridgewater State College), Instructor in Education
- TOM WATSON, B.A. (Baptist University), M.A. (University of Arkansas), Assistant Professor of English
- DOROTHY WERTZ, A.B. (Radcliffe College), A.M., Ph.D. (Harvard University), Assistant Professor of Anthropology and Sociology
- GEORGE ALEXANDER WEYGAND, B.S., M.Ed. (Bridgewater State College), Ed.D. (Harvard University), Professor of Physics
- ALFRED YOUNG WOLFF, JR., A.B. (William and Mary College), M.A., Ph.D. (University of Virginia), Assistant Professor of History
- CAROL ANN WOLFGRAM, B.S. (Wisconsin State College), M.A. (Colorado State College), Instructor in Physical Education for Women
- CLIFFORD ARTHUR WOOD, B.S. (Bridgewater State College), M.A.T. (Brown University), Assistant Professor of English
- DOROTHY SHERMAN WOOD, B.S. (Bridgewater State College), M.Ed. (Boston University), Associate Professor of Education
- VINCENT JAMES WORDEN, B.S. (Worcester State College), Ed.M. (Loyola College), Assistant Professor of Education
- JOANNE WUSCHKE, B.S., Ed.M. (Boston University), Instructor in Speech and Theatre
- LYNNE YEAMANS, B.S. (Bridgewater State College), M.S. (Smith College), Instructor in Physical Education for Women
- JOSEPH YESKEWICZ, B.S. (Springfield College), M.Ed. (University of Massachusetts), Instructor in Health & Physical Education for Men
- RICHARD YIN, B.A. (Chengchi University, Taiwan), M.A. (Brigham Young University), Assistant Professor of Political Science
- JOSEPH BERNARD YOKELSON, B.A. (Brooklyn College), M.A., Ph.D. (Brown University), Associate Professor of English
- RAYMOND JOHN ZUWALLACK, B.A. (University of Connecticut), M.S. (Southern Connecticut State College), Assistant Professor of Education

NEW FACULTY APPOINTED SEPTEMBER 1971 (Partial List)

The following were appointed to the faculty to be effective September, 1971. Those whose appointments were made subsequent to July 8, 1971 are not included.

The list of **Faculty for 1970-1971** begins on page 11.

- BARBARA HOLT APSTEIN, B.A. (Cornell University), M.A. (Columbia University), Ph.D. (City University of New York), Assistant Professor of English
- MILTON LORIMER BOYLE, JR., B.A. (Harvard College), B.D. (Andover Newton Theological School), Ph.D. (Boston University), Associate Professor of Humanities and Director of the Division of Humanities
- JAIME MANUEL CALDERON, B.A. (Macalester College), M.A. (State University of New York at Buffalo), Instructor in Sociology
- DRAKE C. CHISHOLM, B.A., M.A. (University of Massachusetts), Assistant Professor of Psychology
- DAVID MALLORY CULVER, A.B. (Colgate University), M.A., Ph.D. (Boston University), Instructor in History
- HUGO TRIGO D'ALARCAO, B.A., M.A. (University of Nebraska), Ph.D. (Pennsylvania State University, State College), Associate Professor of Mathematics
- JOAN M. HAUSRATH, B.S., M.F.A. (Bowling Green University), M.A. (Ohio State University), Instructor of Art
- GEORGE ROLAND HORNER, B.S.C. (Wheaton College), A.M. (Columbia University), Doctorate de l'Universite en Letters (University of Paris), Professor of Anthropology
- DONALD RAY JOHNSON, B.A., M.A. (University of Hawaii), Assistant Professor of English
- JOHN WILLARD LUCAS, B.A. (Bowling Green State University), M.A. (Boston University), M.A. (Middlebury College), Instructor in Modern Foreign Languages
- CHESTER GEORGE LUPTON, B.A. (Harpur College), M.A. (Brown University), Instructor in Psychology
- LEO JOSEPH MC GUIRK, B.A. (University of Massachusetts), M.Ed. (Bridgewater State College), Assistant Professor of Education
- FLORIAN AUGUST MUCKENTHALER, B.S. (Spring Hill College), Ph.D. (The Catholic University of America), Assistant Professor of Biology
- JAMES WILLIAM MUELLER, A.B. (Rutgers University), M.A. (University of Arizona), Assistant Professor of Anthropology
- PAUL WILLIS PRESCOTT, B.S. (Gorham State College), Ed.M. (Boston University), Assistant Professor of Education
- STEVEN MATTHEW SANDERS, A.B., M.A. (University of Miami), Assistant Professor of Philosophy
- HENRY J. SANTOS, B.Mus. (Boston University), Instructor of Music

SERVANDO TIJERINA, B.A. (University of Texas), M.A. (Stanford University),
Assistant Professor of Modern Foreign Languages

THOMAS REED TURNER, B.A., M.A., Ph.D. (Boston University), Instructor in
History

CORA MILLER WELLS, B.A., M.S. (University of West Virginia), Assistant Pro-
fessor of Health and Physical Education for Women

VISITING LECTURERS 1970-1971

The following were visiting lecturers during the academic year 1970-1971. These listings do not take into account appointments, degrees received, promotions, resignations, etc., which were effective subsequent to the printer's deadline for this catalog.

BARBARA PHILLIPA AALTO, A.A. (Bates College), M.A. (Boston University),
Ph.D. (University of Minnesota), Visiting Lecturer in Education

FREDERICK ADAMS, B.S. (Southern Connecticut State College), M.A. (Uni-
versity of Connecticut), Visiting Lecturer in Education

MARY ARDIS, A.B. (Radcliffe College), M.Ed. (Bridgewater State College),
Visiting Lecturer in Psychology

LEO BERGERON, A.B. (Merrimack College), M.Ed. (Boston College), CAGS.
(Boston University)

MARGARET BRAYTON, A.B. (Stanford University), M.A. (Middlebury College),
Ed.D. (Boston University), Visiting Lecturer in Psychology

JANET BROADBENT, B.S. (North Adams State College), M.Ed. (Boston Uni-
versity)

MELVIN B. CLIFFORD, B.S. (Holy Cross College), M.Ed. (Boston University)

ROBERT EMMETT DRISCOLL, B.S. (Bridgewater State College), M.Ed. (Boston
College), Visiting Lecturer in Education

MARTHA CATHERINE ENGLER, Visiting Lecturer in Storytelling

DIANE GERTRUDE FARRELL, B.A. (Regis College), M.S. in L.S. (Columbia
University), Visiting Lecturer in Library Science

PAUL FINNEGAN, B.S. (Boston College), M.Ed. (Bridgewater State College),
Visiting Lecturer in Education

EVIN ALBERT FOLEY, B.S., M.Ed. (University of Bridgeport), M.S. in L.S. (Sim-
mons College), Visiting Lecturer in Library Science

ROBERT PAYNE FOX, A.B. (Harvard University), M.A., Ed.D. (Boston Univer-
sity), M.S. (Trinity College), Visiting Lecturer in Education

CHARLES WILLIAM GAUGHAN, A.B. (Harvard University), M.Ed. (Boston
University), M.S.S.W. (Tufts University), Visiting Lecturer in Sociology

DAVID STANLEY GOODENOUGH, B.S. (University of Connecticut), M.S.,
Ph.D. (Purdue University), Visiting Lecturer in Education

RICHARD EVARISTE GRAY, B.S. (Salem State College), M.Ed. (Fitchburg State
College), Visiting Lecturer in Special Education

- WILLISTON HOLBERT, A.B. (Gordon College), M.Ed. (Bridgewater State College), Visiting Lecturer in Education
- JOSEPH JOYCE, B.S. (Boston College), M.Ed. (Boston University)
- ARCHIBALD KELLY, B.S. (American International College), M.A. (Boston College), Visiting Lecturer in the Teaching of Mathematics
- DANIEL PETER KULICK, A.B. (Stonehill College), M.Ed. (Boston College), Visiting Lecturer in Education
- THOMAS LAGRASTA, B.S. (Boston College), M.Ed. (Boston State College)
- LAWRENCE GEORGE LAMBROS, B.S. (Bridgewater State College), M.Ed. (Boston University), Visiting Lecturer in Special Education
- ROBERT LEO LAVOIE, B.S. (Boston University), M.B.A. (Harvard University), Visiting Lecturer in Education
- JOAN SAWYER LELAND, B.S. (Bridgewater State College), M.S. in L.S. (Simmons College), Visiting Lecturer in Library Science
- MARION JANE MANTHORNE, B.A. (Bryn Mawr), M.S. in L.S. (Simmons College), Visiting Lecturer in Library Science
- MARYLOU MCCRILLIS, A.B. (Williams Smith College), M.Ed. (Boston University)
- WILLIAM MCGRATH, A.B. (Boston College), M.Ed. (Boston State College)
- BERNARD JAMES MCKEARNEY, B.S., M.A. (University of Wisconsin), Ph.D. (University of Connecticut), Visiting Lecturer in Education
- CHESTER JOSEPH MILLETT, JR., B.S. (College of the Holy Cross), M.Ed. (Boston University), C.A.G.S. (Boston College), Visiting Lecturer in Education
- JAMES MOIR, B.S. (University of Illinois), M.Ed. (Framingham State College), Visiting Lecturer in Meteorology and Climatology
- JOHN MURPHY, A.B. (Merrimack College), M.Ed. (Salem State College)
- VERNON EUGENE OLDHAM, A.B. (Boston University), M.A. (Columbia University), Visiting Lecturer in Guidance
- ARTHUR LEO PENARDI, B.S., M.Ed. (Boston University), Visiting Lecturer in Education
- ROBERT WILLIAM PRENDERGAST, B.S., M.Ed. (Boston University), Visiting Lecturer in Guidance
- WILLIAM JOSEPH QUINLAN, A.B. (Providence College), M.Ed. (Bridgewater State College), Visiting Lecturer in Guidance
- JOHN GAMMONS READ, B.S. (University of Massachusetts), M.A. (Brown University), Ed.D. (Boston University), Visiting Lecturer in Education
- RICHARD DOUGLAS SALIE, A.B. (Johns Hopkins University), M.Ed. (University of Virginia), Visiting Lecturer in Education
- FRED SARKE, A.B. (Northeastern University), M.Ed. (Bridgewater State College), Visiting Lecturer in Education
- SOLOMON SLOBINS, (Massachusetts College of Optometry), Visiting Lecturer in Education

LEONARD SOLOMON, B.A. (City College of New York), M.A. (Cornell University), Visiting Lecturer in Astronomy

PETER JOSEPH SPERANDIO, A.B. (St. Anselm's College), M.Ed. (Boston University), D.Ed. (Boston College), Visiting Lecturer in Education

FRANK VENTURA, B.S., M.Ed. (Bridgewater State College), Visiting Lecturer in Education



General Information

Bridgewater State College shares the national tradition of providing high quality education supported in large part by the State. Serving qualified students throughout the Commonwealth and particularly those living in the southeastern area, this college is committed to encouraging the broad educational preparation which is equally essential for making a maximum contribution to profession, community, and nation, and for developing a sound personal life. While maintaining its historical concern for preparing teachers, Bridgewater also dedicates itself to the education of students who may be interested in other vocations and professions.

Bridgewater strives to provide an atmosphere of integrity, justice, and social concern and to develop within the student a self discipline which will be evident beyond the classroom. In addition to stimulating his intellectual curiosity, Bridgewater State College also provides the student with the opportunity to understand and appreciate the major contributions to man's knowledge of himself and of the physical and social world in which he lives.

It is the stated policy of the Board of Trustees of State Colleges that in matters of college admissions, all individuals will be evaluated on their merits without respect to their race, color, creed, natural origin, age, or sex, as prescribed in applicable federal and state law.

Bridgewater State College holds membership in the New England Association of Colleges and Secondary Schools and New England Conference on Graduate Education.

The College is located in the town of Bridgewater, a pleasant residential community located three miles from an expressway leading to major highways to New York, Boston, and Cape Cod. Motoring time to Boston is approximately forty-five minutes; to New York, four and one-half hours; and to Cape Cod, one hour; bus service to Boston is available.

ADMINISTRATIVE ORGANIZATION OF PROGRAMS

The College conducts a day session for full-time undergraduates and a limited number of full-time graduate students, as well as afternoon and evening pro-

grams for full-time and part-time undergraduate and graduate students. The latter programs are for students who wish to take courses for self-improvement or certification, or for those who have been accepted in an undergraduate or graduate degree program.

Information relative to undergraduate degree programs may be obtained by writing or telephoning (697-6161 x212) the Director of Admissions (undergraduate).

Information relative to graduate degree programs may be obtained by writing or telephoning (697-6161 x 301) the Assistant to the Dean of the Graduate School.

DIVISION OF CONTINUING STUDIES

The Division of Continuing Studies schedules courses for undergraduate, graduate, and audit credit, as well as non-credit courses. Information and guidance relative to graduate degree programs are not given through this Division.

Most graduate students earn all of their credits in courses offered through the Division. Classes are conducted Monday through Thursday, afternoon and evening, during the fall and spring terms. Summer session classes are also scheduled by the Division of Continuing Studies. It is essential that graduate students obtain the Division's brochure prior to each term (fall, spring and summer). Information relative to course offerings, office hours, course registration, tuition and related matters will be found in this brochure.

Students are limited to a maximum of two courses during the summer session. Full-time teachers and other persons who are employed on a full-time basis may enroll for a maximum of two courses (six-eight credits) during the fall and spring terms. If a graduate student should earn more than the permitted maximum number of credits in a given term, or summer session, such credits will not be applied toward meeting degree requirements.

Fall and Spring classes in the Division of Continuing Studies are scheduled between the hours of 4:30 p.m. and 10:00 p.m., Monday through Thursday. Each course meets once per week.

Summer school classes are scheduled by the Division of Continuing Studies between the hours of 8:30 a.m. and 12:45 p.m., Monday through Friday, and from 7:00 p.m. to 10:00 p.m. on Monday, Wednesday and Thursday of each week. Morning courses meet five times per week and evening courses meet three times per week.

Students who have been admitted to a degree program at Bridgewater State College may register in advance by mail. Students who wish to register in advance should obtain a registration form for each course at the Division of Continuing Studies Office. Changes in scheduling will be announced at registration or as soon thereafter as possible.

Courses marked G are strictly graduate courses whereas those designated UG may be taken for either undergraduate or graduate credit. In order to

enroll in a G course or to obtain graduate credit in a UG course, a student must hold a bachelor's degree from a four-year college and, at the time of registering for a course, indicate on the registration form his intention of taking it for graduate credit. Courses marked U are strictly undergraduate courses. U courses may not be taken for graduate credit.

Successful completion of courses does not obligate the Graduate School to accept a student in a graduate program.

ACADEMIC FACILITIES

Boyden Hall is located on the upper campus, between School and Grove Streets. It contains administrative and business offices, the Horace Mann Auditorium, classrooms and offices for faculty members.

Burnell School is located on Grove Street, south of Boyden Hall. The school conducts classes from kindergarten through grade four. Students who are matriculated for the degree of Bachelor of Science in Education spend eight weeks observing and teaching classes at the Burnell School.

The Student Union containing student lounges, an auditorium and cafeteria is located on Park Avenue opposite Pope Hall and the Conant Science Building.

Conant Science Building is located on Park Avenue, on the lower campus. The building contains the Departments of Biological Sciences, Chemistry, Earth Sciences and Geography, Mathematics, Physics, Instructional Media and the Graduate Office.

A computer facility is housed in room 203 of the Conant Science Building. It consists of a PDP-8/I computer and a teleprinter which serves as the input-output device. Courses are offered in computer programming and the equipment is available for use by qualified students and faculty. Those interested in working with the computer may contact Professor Abramson of the Mathematics Department or Professor Daley of the Chemistry Department.

Kelley Gymnasium is located on Park Avenue, on the lower campus. It contains two gymnasiums, an Olympic pool and other facilities for the Departments of Physical Education for Men and Women.

The Maxwell Library, which moved into a new building in Fall 1971, seats 2,500 students. With a present collection of 125,000 books, it has space for 300,000 more. Additionally it has a collection of 5,000 pamphlets and subscribes to 900 periodicals and 16 foreign and domestic daily newspapers. Available in the new building are copiers, microfilm and microfiche readers of all types. There are listening booths, a listening lounge and a specially equipped listening classroom. In addition to standard carrels, there are over 50 carrels with electronic dial access equipment. In the microfilm and microfiche holdings are included a complete file of **The New York Times**, the 20,000-volume **Library of American Civilization**, and the Educational Resources Information Center collection of over a million articles on education.

Stevens Greenhouse and Boyden Botanical Gardens are located on Park

Avenue, on the lower campus between Pope Hall and the Conant Science Building. The facilities, which are managed by a horticulturist, are used by the Department of Biological Sciences for instruction and research.

STUDENT HOUSING

Undergraduate students are housed in the following residence halls: Great Hill, Durgin, Pope, Scott, Tillinghast, and Woodward.

At present, on-campus housing is not available for graduate students but there are a number of approved off-campus houses for students who wish to pursue a full-time graduate program. Students interested in off-campus housing should write to the Dean of Students.

RESIDENCE ASSISTANTSHIPS

A limited number of residence assistantships are available. Students who are interested in obtaining such positions should write to the Dean of Students.

SCHOLARSHIPS AND FELLOWSHIPS

There are, at present, no scholarships or fellowships for graduate students.

NATIONAL DEFENSE STUDENT LOANS

Graduate students who have been accepted by the Graduate School and are taking at least six credits of work per semester, are eligible to apply for a National Defense Student Loan.

Students applying for such loans must present a letter to the Financial Aid Officer from the Dean of the Graduate School, attesting to their accepted status, and proof of registration for the required number of hours.

Applications must be submitted prior to March 15th for the summer session and prior to July 1st for the fall and spring terms.

Graduate students (with accepted status) may borrow up to a maximum of two thousand, five-hundred (\$2,500.00) per year; the total amount borrowed for all degree programs, both undergraduate and graduate, may not exceed ten thousand dollars (\$10,000.00). Individual determination of a loan award is based on a student's proven need as demonstrated in the standard **Parent's Confidential Statement**, and by the amount of funds available in the Financial Aid Office. The repayment period and interest begin nine months after a student has completed his program. Total payment may be extended ten years and nine months after a student has completed his degree program. Interest is at the rate of three percent per year on the unpaid balance. Repayment may be deferred up to three and four years if the borrower is serving in the Armed Forces, the Peace Corps, or Vista.

As much as one-half of the loan may be forgiven if the borrower becomes a full-time teacher at any level. The amount of forgiveness is ten percent of the amount borrowed for each year of teaching, up to a maximum of five years. If the borrower teaches in eligible schools in low-income areas, the rate of forgiveness may be fifteen percent per year.

COUNSELING

Students may have problems and needs that require special forms of help or guidance. Among these are questions and concerns about their educational programs and academic achievement, housing, finances, health, social adjustment, part-time work, and placement.

To assist students in making adjustments, intelligent plans, and wise decisions, the College has provided professional staff services in the major areas of student needs.

The faculty-student relationship is the center of college counseling, for faculty are best qualified to guide the student in his academic and professional growth. Each graduate student works closely with a faculty adviser from whom he receives help and guidance in the pursuit of his graduate program. Additional guidance by a professional counselor may be arranged through the office of the Dean of Students.

RELIGIOUS GROUPS

In the neighborhood of the campus there are available various religious groups and churches, Catholic, Protestant, and Jewish with which interested students may affiliate. A listing of these may be obtained in the Office of the Dean of Students.

HEALTH SERVICES

A hospital suite is located on the first floor of S. Elizabeth Pope Hall (telephone 697-6161 x386). Nursing services are available to all students of the college at all times. A doctor is on duty Mondays, Wednesdays, and Fridays from 8:00 a.m. to 12:00 noon.

STUDENT BOOKSTORE

The Student Bookstore is located in the Student Union. The store has a drug and cosmetic rack, as well as supplies, souvenirs, textbooks, and leisure reading material. The Bookstore is open Monday through Thursday from 8:00 a.m. to 8:30 p.m., except on Friday, 8:00 a.m. to 4:00 p.m., as well as 9:00 a.m. to 12:00 noon on Saturday.

Books may be paid for by cash or check. All checks should be made payable to Student Bookstore, Inc., with the student's home address appearing on the check. The store does not handle used books. Books may be returned to the

store only if they are defective or if courses for which they have been ordered are cancelled. Returned books must be unmarked, in saleable condition, and accompanied by Bookstore sales receipt.

CHANGE OF NAME AND/OR ADDRESS

Students should notify the Office of the Graduate School immediately, by using the appropriate form, **Change of Name and/or Address**, of any change in name or address. Failure to do this may cause unfortunate complications and delays which inconvenience students. Forms are available at the Office of the Graduate School.

MOTOR VEHICLE REGULATIONS

Students should secure a copy of **Traffic Control Regulations** which contains regulations governing the use of motor vehicles. A parking decal must be affixed to the left window of all motor vehicles on campus. The fee for a parking decal is one dollar (\$1.00). Regulations and decal are obtainable at registration or at Campus Police Headquarters after registration.

SELECTIVE SERVICE

Information regarding Selective Service regulations and deferment may be obtained from the student's Selective Service Local Board.

TEACHER CERTIFICATION

Teacher certification is the responsibility of the State Department of Education. All inquiries relative to certification should be addressed to the Director, Bureau of Teacher Certification and Placement, 182 Tremont Street, Boston, Massachusetts 02111.

PLACEMENT SERVICES

Placement services are available to graduate students seeking positions in the field of education through the office of Teacher Preparation and Placement which is located in Woodward Hall. Position vacancies are posted on the placement bulletin boards and are filed in placement folders indexed on the basis of type of vacancy and geographical location. Interviews with prospective employers are initiated by candidates themselves.

Other job information and interviews are arranged through the Guidance Office in Boyden Hall.

OTHER COLLEGE POLICIES

Information or additional information concerning such matters as smoking, bulletin boards, vending machines, messages and, library services should be obtained at the time of registration.

The Graduate School

The Graduate School acts as a coordinating institution among the several departments engaged in graduate instruction. The Dean and the Graduate Committee, together with administrators and faculty work toward maintenance of uniform standards for higher degrees.

The primary aim of the Graduate School is to produce graduates who are not only competent in their major field, but are also aware of their professional and community responsibilities. Another major goal is to foster research on the part of both faculty and students. Every graduate student is given the opportunity to engage in original investigation under the direction of a member of the faculty.

The Office of the Graduate School, which is located in Room 211 of the Conant Science Building, is open from 8:00 a.m. to 5:00 p.m., Monday through Friday, except for legal holidays, throughout the year.

Appointments with the Assistant to the Dean may be made by telephoning 697-6161, x 301. Official notification of such matters as acceptance, grades, and results of all examinations will be released only by letter.

Persons interested in working toward a master's degree should obtain a current copy of the Graduate School Catalog. This Catalog is published in August of each year and may be obtained at the Office of the Graduate School.

GRADUATE COMMITTEE

The Graduate Committee recommends policies relative to the Graduate School and graduate curricula. It reviews and makes decisions on applications to the Graduate School which have been considered by the appropriate academic department.

GENERAL POLICIES AND PROCEDURES

Students are responsible for all information given in the latest edition of the

Catalog and also for any notices posted on the bulletin boards of the Graduate School, the Division of Continuing Studies, the Library, and the department in which the student is concentrating.

No major deviations from any graduate regulations are permissible unless they are approved by the Graduate Committee, or, in certain cases, by the Dean of the Graduate School.

DEADLINES

Students are reminded to consult the annual Calendar of the Graduate School for deadlines and dates relative to such matters as: admission, Graduate Record Examinations, examination requests, approval of transfer credit, and filing application for degrees.

TIME LIMITS

All requirements for the degree must be completed within six years from the date of acceptance. No graduate course offered for the degree may be more than six years old when degree requirements are completed.

REGISTRATION

All students who have been admitted to the Graduate School should pre-register for courses by mail through the Division of Continuing Studies. Those enrolled in a degree program, if they wish to maintain their status as a graduate student, are required to take a minimum of one course each calendar year. This is to ensure that our facilities are used efficiently and that students remain in contact with their fields and make progress in their degree programs. Graduate students who do not meet this minimum registration requirement must request permission, from the Dean, to reenter the Graduate School.

A graduate student who enrolls for twelve or more credits is classified as a full-time student. In order to qualify for the full-time tuition rate in the day session, however, a student must enroll for a minimum of twelve credits in the day session. Intention to enroll on a full-time basis must be reported to the Graduate School Office on the form entitled **Notification of Intent to Enroll for Full-time Graduate Study**. This form may be obtained at the Office of the Graduate School. It should be submitted by the student at the time of registration. A limited number of full-time graduate students may take courses in the day session. Information about these courses, and permission to enroll in them, may be obtained from the Assistant to the Dean of the Graduate School.

No full-time graduate student may register for more than fifteen credits during the fall and spring terms. **No graduate student**, either full-time or part-time, may register for more than two courses (6-8 credits) during the summer session. **Any graduate student** who earns more than the permitted number of credits allowed in a given term or summer session may not apply more than the permitted maximum number of credits toward the degree.

Students who complete courses at the Hyannis Summer Session should request the Director of the Session to forward transcripts to the Office of the Graduate School.

TUITION AND FEES

Tuition for Residents of Massachusetts

1. \$100.00 per semester—full-time day study
2. \$ 18.00 per semester hour—part-time day study
3. \$ 18.00 per semester hour—Program of Continuing Studies
4. \$ 11.00 per semester hour—audit in the Program of Continuing Studies

Tuition for Non-Residents of Massachusetts

1. \$600.00 per semester—full-time day study
2. \$ 21.00 per semester hour—part-time day study
3. \$ 25.00 per semester hour—Program of Continuing Studies
4. \$ 11.00 per semester hour—audit in the Program of Continuing Studies

Fees

1. \$10.00 Registration
2. \$ 5.00 Library
3. \$ 5.00 Student Union Building
4. \$10.00 Laboratory courses in Biology, Chemical Sciences, Earth Sciences, and Physics
5. \$ 5.00 Studio courses in Art and Music
6. \$ 5.00 Laboratory courses in Instructional Media and Speech and Theatre
7. \$17.00 Commencement

Payment to Bridgewater State College for tuition and fees must be made in full by check or money order at the time of registration. Veterans should consult the Veterans' Coordinator concerning possible tuition waiver.

DEPARTMENTAL PREREQUISITES

Departmental prerequisites may be required to ensure adequate preparation for graduate work in the area of concentration. Departmental prerequisites may be fulfilled after the applicant's acceptance by the Graduate School. Certain advanced courses require that students have completed certain prerequisites. Official enrollment in such courses require that a **Prerequisite Statement** form be filed with the instructor. This form may be obtained from the instructor at the first class meeting and should be completed and returned to the instructor at the second class meeting. Failure to do so may result in the loss of any credit earned in such courses.

GRADING SYSTEM

Graduate Course Achievement will be rated A (Excellent), B (Good), C (Poor but passing), F (Failure), WP (Withdrawn-Passing), WF (Withdrawn-Failing), INC (Incomplete), or AU (Audit). A course in which part of the work is not

completed **for a valid reason** will be recorded as INCOMPLETE, provided the student has arranged with the instructor before the end of the term to complete the assigned work within thirty calendar days following the official close of this session.

An incomplete course must be completed within thirty calendar days following the official close of the session, or a grade of F will be recorded. Graduate students who earn grades of C or below (including WF) in more than two courses must withdraw from the program unless special permission to continue is recommended by the adviser, the Graduate Committee, and the Dean of the Graduate School. A student who earns a grade of C or below (including WF) in a graduate course, may not take more than one graduate course in the following term without the written permission of his adviser. This letter of permission must be deposited in the Graduate School Office prior to registration.

TRANSFER CREDITS

A student who has taken appropriate graduate courses prior to acceptance, may request up to fifteen credits of grade "B" or better (including any credits earned in courses in which he is enrolled at the time of his acceptance) be accepted in partial fulfillment of degree requirements. These credits must be derived from courses designated by the department as appropriate to the student's degree program and must be endorsed by the adviser. Not more than six of the fifteen credits, may be transferred from an outside institution. A form entitled **Petition for Acceptance of Transfer Credit** should be obtained by the student from the Graduate School Office, signed by his adviser and returned by the student to the Graduate School Office. If such credit is to be applied toward fulfillment of requirements for a master's degree, the student must submit the above form no later than the deadline indicated in the Calendar of the Graduate School.

After acceptance, a maximum of six graduate credits of grade "B" or better, taken at an approved graduate school, other than Bridgewater State College, may be transferred if approved by the adviser. In no case, however, may more than a **total** of six appropriate credits be transferred from other graduate schools. Two transcripts of the courses taken off campus, after acceptance, must be sent directly to the Bridgewater State College Graduate School.

All courses to be used for degree credit must have the approval of the adviser and be recorded on the **Record of Graduate Program**.

THESIS

The major function of a thesis is its contribution to the scholarly development of the student. In seeking approval of a thesis topic the student is expected to convince those whose approval is required that the topic is significant and that execution of the work will further his educational and scholarly development. Each graduate student should confer with his adviser relative to a

thesis topic and outline at the earliest opportunity. It is essential that the student work closely with his adviser in all matters relative to the thesis.

The Thesis Committee is comprised of the departmental chairman and two faculty members appointed by the departmental chairman. One of the two faculty members should be the student's adviser. The Committee is chaired by the adviser.

It is the responsibility of the student to obtain the form **Approval of Thesis Topic and Outline** and submit it to his adviser. The form may be obtained at the Office of the Graduate School. The completed form should be returned to the Office of the Graduate School by the adviser. The form **Approval of Thesis Topic and Outline** must be signed and filed in the office of the Graduate School no later than four months prior to taking the Comprehensive Examination. If the student, with the approval of his adviser, changes his thesis title, he must file a revised copy of the above form in the Office of the Graduate School no later than two months prior to taking the Comprehensive Examination.

A student enrolled in a Master of Arts program may receive a maximum of ten credits for a thesis. A student enrolled in a Master of Education program may receive a maximum of six credits for a thesis.

Three appropriately bound copies of the thesis must be deposited by the student in the Office of the Graduate School at least one month prior to the completion of all degree requirements. Three copies of an abstract of the thesis should also be deposited at this time.

COMPREHENSIVE EXAMINATION

While students are expected to make satisfactory progress in their course work, the accumulation of credit hours is not regarded as the sole index of a student's progress or as a guarantee that he will be granted a degree. Each student must give evidence that he can integrate information and ideas from the various areas in which he is studying. The principal instrument for measuring this achievement is the Comprehensive Examination. This examination may be written and/or oral. It is based upon the area of concentration, related fields, and may include work done on the thesis. A student who plans to take the Comprehensive Examination should file the form entitled **Examination Request**. This form should be completed and filed by the student in the Graduate Office no later than the deadline indicated in the Calendar of the Graduate School. **This examination may not be taken prior to the last term of degree work or after the completion of all course work.**

A student who fails the Comprehensive Examination shall be given only one further opportunity to take it after he has made substantial progress in additional work prescribed by his adviser. The second Comprehensive Examination may not be taken prior to the next examination period, indicated in the Calendar of the Graduate School. Those who take the Comprehensive Examination will be notified of the results by mail.

COMMENCEMENT

Students who expect to fulfill all requirements for the master's degree in January, May, or August, should request the form **Application for Degree** from the Graduate Office. This form should be completed by the student and filed in the Graduate School Office during the last term of work no later than the deadline indicated in the Calendar of the Graduate School. Failure to file before the deadline will postpone degree conferral. A Commencement Fee of \$17.00 is required at the time of filing this application.

Diplomas are awarded at the June Commencement and also during the months of February and August. Students who receive their diplomas in August or February, as well as those who complete their degree work in May or June, should plan to attend the June Commencement and wear appropriate academic regalia. Information relative to Commencement is mailed in May.

In the event that a student does not receive his degree at the anticipated time, he must file a new **Application for Degree** form in accordance with the deadline indicated in the Calendar of the Graduate School.

GRADUATE DEGREE PROGRAMS

The following degree programs are offered through the Graduate School. Requirements for admission to and completion of these programs are found in this section of the Catalog of the Graduate School and also under the appropriate department or departments.

Master of Arts

- Master of Arts in Biology
- Master of Arts in Chemistry
- Master of Arts in English
- Master of Arts in History

Master of Education

- Master of Education in Elementary Education
- Master of Education in Elementary School Mathematics
- Master of Education in Guidance
- Master of Education in Health Education
- Master of Education in Instructional Media
- Master of Education in Reading
- Master of Education in School Administration
- Master of Education in School Librarianship
- Master of Education in Secondary Education
(with a concentration in one of the following fields)
 - Behavioral Sciences
 - Biology
 - Creative Arts – art, music, speech and drama
 - Chemical Sciences
 - Earth Sciences

English
Geography
History
Humanities – English, philosophy, modern foreign languages
Mathematics
Modern Foreign Languages
Physical Sciences
Physics
Social Sciences
Speech and Theatre
Master of Education in Special Education
Master of Education in Special Education - Learning Disabilities

ADMISSION

Application

Students seeking admission to a program leading to a master's degree, must hold a bachelor's degree from a four-year institution of acceptable standing. College seniors may be admitted on a conditional basis.

Applicants should specify the degree program (and also the area of concentration) when they request application forms. **The Graduate School cannot send the appropriate** application forms without this information. Any student who has filed materials for admission to a given degree program or area of concentration and subsequently decides to apply for admission to another program or area of concentration, must submit a written request as well as new application forms and letters of reference relative to this degree program. Such changes in application must be submitted prior to the deadline specified in the Calendar of the Graduate School.

All students seeking admission to a Master of Arts program and certain Master of Education programs (see departmental requirements) are required to have a formal interview with the chairman of the appropriate department prior to the deadline set in the Calendar of the Graduate School for completed applications. Applicants to the Graduate School should make certain that the following are on file in the Office of the Graduate School.

1. **A formal application**, in duplicate. Application forms may be obtained from the Graduate Office.
2. **Three letters of recommendation**, in duplicate, which indicate an estimate of the applicant's ability to successfully pursue a graduate program in his proposed field of concentration. Two recommendations must come from college faculty who have taught the applicant at the collegiate level. The third letter of recommendation **may** come from an employer. Master of Arts applicants must submit two references from persons who have taught them in the appropriate area of concentration. Forms for recommendations are available at the Graduate Office. **Only recommendations submitted on these forms will be considered in evaluating** an applicant. Recommendations must be sent directly to the Dean of the Graduate School by each reference.

3. **The results of the Aptitude Test of the Graduate Record Examination.** The applicant must arrange to have his scores sent from the Educational Testing Service directly to the Dean of the Graduate School. Students having difficulty obtaining scores from Princeton should consult with the Graduate Office. Photocopies of scores and scores submitted by the applicant are not acceptable. Application forms and information relative to the Graduate Record Examinations may be obtained from the Graduate Office. Since there is up to **six weeks delay** between the test date and the receipt of scores, applicants should take the test well in advance of the Graduate School's deadline for receipt of completed applications. (See the Graduate School Calendar). In addition, applicants applying for a Master of Arts program must submit the appropriate advanced test score. Scores earned on any Graduate Record Examination (aptitude and/or advanced) must have been made on examinations taken no more than five years prior to the date of the current application to Graduate School.
4. **Two copies of the official transcript** of the applicant's undergraduate college record, bearing the seal of the college. Applicants who have attended more than one undergraduate college, or who have completed course work beyond the bachelor's degree, should arrange to have duplicate transcripts of all course work sent directly to the Dean of the Graduate School. (These transcripts must be sent by the college registrar directly to the Dean of the Graduate School.) Graduates of Bridgewater State College should request the College Registrar to send transcripts to the Graduate Office. Applicants currently enrolled in the Division of Continuing Studies should request the Division to send their transcripts to the Graduate Office.
5. In addition to the above, there may be special departmental requirements relative to application. Such requirements, if any, are to be found under the section entitled **Departmental Requirements** in this Catalog.

An application is not complete, and no applicant will be considered for admission, unless all of the above documents have been received by the Dean of the Graduate School (and an interview held if required) on or before the appropriate deadline indicated in the Calendar of the Graduate School. It is the obligation of the student to make certain that his application documents are received in time. One month prior to each deadline for admission a notice will be sent to applicants listing the documents which have not been received. Applicants will be notified when their application folders are complete. All transcripts and other documents submitted become the property of the Graduate School and will not be returned.

Applicants should check the Calendar of the Graduate School relative to deadlines for submitting completed applications. Completed applications received after a deadline will be considered at the next admission date.

Action by the Department

The Dean of the Graduate School sends all completed applications to the academic department in which the applicant proposes to take his concentration. Departments are asked to make their recommendations to the Graduate Committee.

Action by the Graduate Committee

The Graduate Committee meets in October, February and May of each year to consider completed applications.

The Committee, after examining each applicant's credentials and the academic department's recommendation, makes its recommendations to the Dean of the Graduate School. The Committee may recommend:

1. That the applicant be admitted to the Graduate School clear. Graduate students accepted with course deficiencies will be required to take prescribed undergraduate work without credit toward the degree.
2. That the applicant be admitted as a probationary student and that he be reconsidered for admission to the Graduate School after the satisfactory completion of twelve credits of graduate work approved by his adviser. A probationary student should file a form, **Petition for Removal from Probationary Status**, when he has completed twelve credits of graduate work with a grade of "B" or better which have been approved by his adviser.
3. That the applicant be admitted conditionally pending the receipt of a baccalaureate. A college senior, who is admitted to the program on condition, should request his college to forward complete transcripts as soon as possible.
4. That the applicant not be admitted.

The successful completion of graduate courses prior to application shall not obligate the academic department or the Graduate Committee to recommend an applicant for acceptance.

Action by the Dean of the Graduate School

The Dean, after reviewing the recommendations of the academic department and the Graduate Committee, notifies the applicant of the action taken. The student will be assigned an adviser at this time. The Graduate School also sends the student and his adviser copies of the form **Record of Graduate Program**. It is important that the student telephone his adviser at the College and make an appointment for planning his program. The student should bring his copy of the **Record of Graduate Program** to every conference with his adviser. The adviser's copy is sent to the Graduate School when the student applies for his degree. Program planning conferences should be arranged well in advance of each term.

Conferences with advisers may be difficult to arrange during holidays, vacations, in June prior to summer session registration, and between the close of summer session and registration for the fall term. During these times, all communication should be by mail or telephone.

CHANGES IN PROGRAM

Any request for change in degree program must be made prior to the deadline for receiving completed applications as indicated in the Calendar of the

Graduate School. A student wishing to change his program must: 1) petition the Graduate Committee in writing, through the Dean of the Graduate School; 2) file a new application; 3) submit new references appropriate to the proposed program; and 4) submit any additional material appropriate to the new program. Credits earned in one degree program may be transferred to another degree program with the approval of the new adviser.

GENERAL REQUIREMENTS FOR THE DEGREE OF MASTER OF ARTS

Credits

General requirements for the degree shall be a minimum of thirty approved graduate credits including a thesis approved by the department. These credits must be derived from courses designated by the department as appropriate to the students degree program and must have the indorsement of the adviser. Unless otherwise indicated by the major department, a maximum of ten of the thirty approved Graduate credits may be allowed for the thesis and a minimum of eighteen Graduate credits must be completed in the field of specialization. Ordinarily, at least one-half of the degree credits must be earned in courses limited to graduate students. Such courses are designated in this Catalog by the letter G.

Each student must enroll in the thesis course listed under his major department. Students should consult the section in this Catalog entitled **Thesis** and request the brochure entitled **The Master's Thesis** from the Graduate School Office.

Preliminary Examination

A Preliminary Examination is required during the semester following the successful completion of twelve credits (including transfer) of approved graduate work. This examination may be written and/or oral. Its purposes are: 1) to determine the degree of skill achieved in relating and integrating graduate work completed to date, 2) to ascertain the readiness of the student for additional graduate work, and 3) to enable the adviser to plan the remainder of the student's program. The Graduate School will apprise the student of his performance on the Preliminary Examination. Unsatisfactory performance may require the student to take additional course work and a second examination. If the student fails to perform satisfactorily a second time, he will be dropped from the degree program.

Foreign Language Examination

A reading knowledge of one foreign language, specified by the major department, is required. Each student should consult with his adviser relative to departmental language requirements and procedures for taking the examination.

The foreign language requirement must be met at least two months prior to taking the Comprehensive Examination. The results of this examination are submitted to the Graduate School by the adviser on the form entitled **Examination Results**.

Students should thoroughly familiarize themselves with the material presented under their major department or departments as well as that found in the sections of the Catalog entitled **General Information** and **The Graduate School**.

GENERAL REQUIREMENTS FOR THE DEGREE OF MASTER OF EDUCATION

Credits

General requirements for the degree shall be a minimum of thirty approved graduate credits. These credits must be derived from courses designated by the department as appropriate to the students degree program and must have the endorsement of the adviser. A thesis is optional in the Master of Education program. A maximum of six credits may be earned in thesis work. The thesis should include results of original research and give evidence of high scholarship. Students who plan to do a thesis should consult the section of the Catalog entitled **Thesis** and request the brochure entitled **The Master's Thesis** from the Graduate School Office. Ordinarily, at least one-half of the degree credits must be earned in courses limited to graduate students. Such courses are designated in this Catalog by the letter G.

Students are required to earn as part of the required thirty graduate credits, a minimum of 15 credits of graduate work in the area in which they are taking their concentration. Each department establishes its departmental concentration. Students should thoroughly familiarize themselves with the material presented under their major department or departments as well as that found in the sections of the Catalog entitled **General Information** and **The Graduate School**.

Required Courses

All students enrolled in a program leading to the degree of Master of Education must complete the following courses:

- ED 500 Research and Evaluation
- ED 560 American Public School Today

In addition to the above, all students must complete at least one of the following courses. The course or courses elected from this group must be approved by the adviser and should be selected on the basis of their relationship to the students program as well as certification requirements.

- ED 505 Historical Foundations of Education
- ED 520 Psychological Foundations of Education
- ED 580 Philosophical Foundations of Education
- ED 590 Sociological Foundations of Education

Those enrolled in a program leading to the degree of Master of Education in Secondary Education with a concentration in an academic area must complete a methods course in that area. This course must be approved by the adviser. Any student who has taken such a methods course at either the undergraduate or graduate level may be exempted from this requirement, subject to approval by his adviser.

Teaching Requirement

All students enrolled in a program leading to the degree of Master of Education are required to fulfill the degree prerequisite of teaching experience. **This requirement may be met, unless otherwise indicated under the department in which the student is concentrating, by either of the following procedures.**

1. **Teaching Experience.** One full semester of successful classroom teaching experience at the appropriate level as a **full-time employee** in an accredited public or private school.
2. **Student Teaching.** A student who meets the course and credit requirements for certification in Massachusetts, is eligible to student teach when he has completed at least twenty-four credits of approved graduate course work. The student shall request the Graduate School to certify his eligibility by letter to the Director of Teacher Preparation and Placement. An application form entitled **Application for Off-Campus Student Teaching in the Public Schools**, should be obtained from the Office of the Director of Teacher Preparation and Placement. The student should complete the application and file it with the Division of Continuing Studies at least ninety days prior to the beginning of student teaching. The student must register for the course ED 492 (Supervised Teaching in the Public Schools U) through the Division of Continuing Studies after his application has been approved.

CERTIFICATION REQUIREMENT

All students enrolled in a program leading to the degree of Master of Education should work closely with their advisers to ensure that certification requirements in their area of specialization are met.

Departmental Requirements and Course Descriptions

Key to letter designations which follow course titles.

- U — Course may be taken for undergraduate credit only
 - UG — Course may be taken for either undergraduate or graduate credit
 - G — Course may be taken for graduate credit only
-

DIVISION OF THE BEHAVIORAL SCIENCES DIRECTOR: PROFESSOR MOORE

Anthropology

Psychology

Sociology

The Division of the Behavioral Sciences offers a program leading to the degree of Master of Education in Secondary Education with a concentration in behavioral sciences. This program is designed primarily for teachers and future teachers of behavioral sciences. Course work in urban, African and black studies may be included in the student's program.

In addition to meeting general degree requirements, the student must complete the concentration requirement by electing courses appropriate to his degree program. All courses must be approved by the adviser. Courses which may be taken are listed under the several departments within the Division of the Behavioral Sciences.

DEPARTMENT OF ANTHROPOLOGY

Chairman: Professor Moore

Professor: Horner

Assistant Professors: Chisholm, Mueller, Stewart, Thomas

The Department of Anthropology does not offer a program at the master's degree level at this time. Anthropology courses may be taken in the degree program of Master of Education in Secondary Education with a concentration in the behavioral sciences.

The following courses may be taken for graduate credit. Certain of these

courses may be required as degree and/or course prerequisites, and credit earned in them may not be counted toward meeting the minimum degree requirements of thirty graduate credits. In addition, the department may require degree and/or course prerequisites in other departments. When a course is approved for degree credit by the faculty adviser, credits earned with acceptable grades may be used in partial fulfillment of degree requirements.

AN 201 General Anthropology UG **3 credits**

Origin of man. Physical evolution of man. Divisions of anthropology, cultural history, and development. Basic concepts and methods of analyzing cultures.

AN 202 Cultural Anthropology UG **3 credits**

Science of human behavior in different cultural contexts. Man's biological and cultural variability; human societies of the present and recent past around the world; dynamics of cultural change.

AN 205 Culture in Process UG **3 credits**

Use of the inductive approach to examine the effect of culture on individuals and groups. Discussion and study of applied anthropological techniques used in planned programs to assist in adopting social change. Prerequisite: AN 201 or AN 202.

AN 207 Primitive Religion UG **3 credits**

The origins and development of religion in society, myth, ritual, magic and religious specialists. Australian, African, American Indian, Near Eastern folk religion, and folk religion of the Negro in the new world.

AN 208 Religion in the Cultures of Asia UG **3 credits**

A survey of the beliefs and practices of Hinduism, Buddhism, and Islam, as related to their societal and cultural backgrounds. Attention will be given to aboriginal religions of the South Pacific and to the ancient religions of China and Japan, Taoism, Confucianism, and Shinto. The "great tradition" of philosophy will be compared with the "folk tradition" and actual practices of each religion in Asia today.

AN 210 Introduction to Folklore UG **3 credits**

The meaning and subdivisions of folklore: myth, folktale, proverb, riddle—analyses of story elements, and major folklore areas.

AN 301 Introduction to Physical Anthropology UG **3 credits**

An introduction to the principles of Physical Anthropology as it relates to human evolution. Examination of present evidence, in an attempt to discover the origin of man. Such aspects of progress as homeostasis, primate radiation, body structure and posture, feeding ecology and behavior, evolution of the head and reproduction. Prerequisite: An 201, or one year of natural science.

AN 302 Introduction to Archaeology UG	3 credits
Examination of field methods, systems of data recording, analytical methods, and their conceptual basis. Abstract theory closely integrated with specific case material. Laboratory exercises in application of artifact analysis. Prerequisite: AN 201, or one year of natural science.	
AN 304 Personality and Culture UG	3 credits
A study of the interrelationships between individual and society, focusing on 1) major theories about the formation of personality by the surrounding structures, including Freudian theory and the Marxist concept of alienation; 2) a cross-cultural study of childhood; 3) adolescence in changing America; 4) several conceptions about the contemporary American personality as compared with personality structures in traditional society. Prerequisite: AN 201, or Major in Behavioral Sciences.	
AN 305 Peoples and Cultures in India UG	3 credits
A survey of social structure in India, with emphasis on 1) the caste system; 2) the traditional Hindu and Islamic cultures; and 3) the effects of urbanization and modernization upon traditional structures. Prerequisite: AN 201 or ES 452.	
AN 310 Peoples and Cultures of Africa South of the Sahara UG	3 credits
A survey of present cultures of tropical and subtropical Africa, problems of colonialism, acculturation, new nationalism and rapid social change. Prerequisite: AN 201, ES 261, SO 202.	
AN 320 West Indian Negro Cultures in the Caribbean UG	3 credits
Survey of the West Indian Negro cultures in the West Indies including social organization, religion, political development and adjustment to modern conditions. Prerequisite: AN 201, SO 203, or ES 261.	
AN 322 Seminar: Afro-Asian Urban Cultures UG	3 credits
Description and analysis of urban cultures in Africa and Asia with special attention to problems of rapid social change, acculturation, political and economic developments. Prerequisite: AN 201, ES 261, and SO 202.	
AN 323 Theory of Culture UG	3 credits
A survey of early schools of cultural theory including Adolf Bastian, Lewis Morgan, Edward B. Tylor, the British Diffusionists, the German Historical-Diffusionist School, French Sociology, Functionalism, including Franz Boas and Malinowski. Current functional evolutionary theory. Prerequisite: AN 205.	
AN 324 Human Evolution and Variation UG	3 credits
Application of the general evolutionary theory to man; primatology; human paleontology; race formation; cultural effects. Prerequisite: AN 301.	

AN 325 Survey of West African Cultures UG 3 credits

An introduction to contemporary diversity in relation to language grouping, technologies, national problems and opportunities. Prerequisite: AN 201, ES 261, and SO 202.

AN 326 Survey of East African Cultures UG 3 credits

An introduction to the cultural diversities in relation to language grouping, technologies, national problems and opportunities with emphasis on the present. Prerequisite: AN 201, ES 261, and SO 202.

AN 327 Seminar: Urban Centers in East and West Africa UG 3 credits

Major African cities and the culture of their hinterland focussing on cities like Nairobi, Kanipala, Kairo, Kumase, and Monrovia and the role these cities play in shaping the lives of people in the surrounding territories. Prerequisite: AN 201, ES 261, and SO 202.

AN 328 Archaeology of North America UG 3 credits

Survey of some of the historic and prehistoric Indian cultures in North America. Prerequisite: AN 201.

AN 402 Seminar on Field Methods UG 3 credits

Methods of field work for cultural anthropologists working in ongoing societies; design of field studies; techniques for collection and analysis of empirical data, experimental field projects. Prerequisite: AN 201.

AN 404 Seminar: Anthropology for Elementary Education UG 3 credits

Theory and techniques of teaching Anthropology to elementary students. Special course material in physical and cultural anthropology and prehistory and archaeology. Grades 1 thru 6. Prerequisite: AN 201.

AN 406 Archaeological Field Excavation, Survey and Research in Prehistoric Village sites in New England UG 3 credits

Intensive training in excavation techniques, recordation, analysis, and interpretation of archaeological materials. Prerequisite: AN 302.

AN 502 Thesis G credit to be arranged

Original research directly related to a thesis. A maximum of 6 credits may be earned in conjunction with an M.Ed. program. Prerequisite: Approval of the adviser and the departmental chairman.

AN 503 Independent Study G**credit to be arranged**

Investigation and/or research not directly related to a thesis. Enrollment in Independent Study (G) is limited to students who have been admitted to a master's degree program at Bridgewater State College. The number of credits earned in Independent Study (G) plus those earned in conjunction with a thesis may not total more than 10 for students enrolled in an M.Ed. program.

DEPARTMENT OF PSYCHOLOGY**Chairman: Professor Lester****Associate Professors: Greenwald, Hollis, Schippers, Scroggs****Visiting Lecturers: Ardis, Neron**

The Department of Psychology does not offer a program at the master's degree level at this time. Psychology courses may be taken in the degree program of Master of Education in Secondary Education with a concentration in the behavioral sciences.

The following **undergraduate** courses are prerequisites for certain graduate courses offered by the department. Additional undergraduate prerequisites in other departments may be required. No graduate credits may be earned in these courses.

PY 200 General Psychology U**3 credits**

Basic psychological processes such as perceiving, learning, thinking, emotion, and motivation, as well as more complex areas such as personality, adjustment, and social influences on behavior; major conclusions and basic methods of study in the field.

PY 224 Child Growth and Development U**3 credits**

Growth and development of the child from birth through pre-adolescence. Biological, psychological, and social factors as well as moral forces which influence child behavior. Prerequisite: PY 200.

PY 226 Adolescent Psychology U**3 credits**

The major theories related to pre-adolescent and adolescent development. Physical, mental, moral, emotional, personality, and social aspects will be considered. Prerequisite: PY 200.

The following courses may be taken for graduate credits. Certain of these courses may be required as degree and/or course prerequisites, and credit earned in them may not be counted toward meeting the minimum degree requirements of thirty graduate credits. In addition, the department may require degree and/or course prerequisites in other departments. When a course is approved for degree credit by the faculty adviser, credits earned with acceptable grades, may be used in partial fulfillment of degree requirements.

PY 222 Psychology of Learning UG **3 credits**

An examination of the theoretical and research aspects of the learning process. Theories of Learning will be examined in relation to experimental design, and the learning situation. Prerequisite: PY 200.

PY 228 Psychology of Mental Retardation UG **3 credits**

Origins (genetic; organic; sensory, maternal, and cultural deprivation), manifestations, diagnostic aids, therapeutic and remedial techniques. Prerequisite: PY 200.

PY 229 Abnormal Psychology UG **3 credits**

A systematic study of behavior pathology. Symptom patterns, etiology, prognosis, and prevention. Understanding and care of mental illness. Prerequisite: PY 200.

PY 230 Social Psychology UG **3 credits**

The individual in social situations; attitude formation and change, culture and society, language and communication, leadership and group dynamics, personality, characteristics and interpersonal relationships. Classic studies in prejudice, brainwashing, competition, and small group behavior. Prerequisite: PY 200.

PY 231 Psychology of Personality UG **3 credits**

Basic concepts in the field of personality, organized around such topics as motivation, personality structure and dynamics, personality development, assessment, and therapy. Problems and styles of adjustment will be considered. Prerequisite: PY 200.

PY 302 Psychological Theory UG **3 credits**

Fundamental assumptions underlying the psychological enterprise, and issues which are the subjects of continuing debate in the field — e.g. causality, determinism, methodological approaches, the control of behavior, conceptions of the nature of man. Prerequisite: at least four courses in Psychology.

PY 304 Attitude and Personality Measurement UG **3 credits**

Principles of construction of attitude scales and personality assessment techniques, including both projective and inventory-type techniques. Issues and controversies in psychological measurement. Prerequisites: PY 231, or PY 302, and MA 110.

PY 306 Experimental Psychology UG **3 credits**

The shaping of behavior, laboratory conditioning, reinforcement, approach and avoidance of a goal, discrimination and generalization of physical cues, animal learning experiments. Experimental approaches to the study of human behavior. Prerequisite: PY 200.

PY 308 Experimental Social Psychology UG**3 credits**

Recent research in social psychology, including developments in methodology, theory, and research findings. Situational and individual difference approaches useful in testing theories and hypotheses and in resolving conflicting findings of previous research. Research project required of student. Prerequisites: PY 230 and MA 110, or its equivalent.

PY 310 Seminar: Clinical Psychology UG**3 credits**

Survey of diagnostic and treatment procedures and resources in clinical guidance work with children and adults; professional duties and skills of the clinical psychologist. Prerequisites: PY 229 and PY 231.

PY 312 Seminar: Attitude Change Research UG**3 credits**

Empirical research in persuasion; communicator credibility, opinion differences, commitment, one-sided (pro) and two-sided (pro and con) arguments, coercion and threat, emotional and rational arguments. Theories of attitude change, including dissonance theory, balance theory, congruity theory, and assimilation and contrast theory. Prerequisites: PY 230 and MA 110.

PY 322 Applied Social Psychology UG**3 credits**

Effective communication, and better understanding of oneself, listening, conflict resolution, persuasion, goals and expectations, self-confidence. Contemporary problems such as dissent, minority groups. Guest speaker when possible.

PY 326 Seminar: Research Methods in the Behavioral Sciences UG**3 credits**

The strategies of scientific research (hypothesis formation, experimental design, statistical analysis, data interpretation) and the tactics of obtaining reliable information and minimizing artifact (survey methods, various kinds of interviews, individual difference measures, controlled laboratory conditions). Offered only to Senior majors in Psychology or another Behavioral Science. Prerequisites: MA 110 and at least 6 courses in Behavioral Science.

PY 400 Research Practicum UG**3 credits**

Individual or group research project. Prerequisite: Major in Psychology or Behavioral Science and PY 326.

PY 502 Thesis G**credit to be arranged**

Original research directly related to a thesis. A maximum of 6 credits may be earned in conjunction with an M.Ed. Program. Prerequisite: Approval of the adviser and the departmental chairman.

PY 503 Independent Study G**credit to be arranged**

Investigation and/or research not directly related to a thesis. Enrollment in Independent Study (G) is limited to students who have been admitted to a master's degree program at Bridgewater State College. The number of credits earned in Independent Study (G) plus those earned in conjunction with a thesis may not total more than 10 for students enrolled in an M.Ed. program.

DEPARTMENT OF SOCIOLOGY**Chairman: Professor Brown****Associate Professor: Greene****Assistant Professor: Thomas****Visiting Lecturer: Gaughan**

The Department of Sociology does not offer a program at the master's degree level at this time. Sociology courses may be taken in the degree program of Master of Education in Secondary Education with a concentration in the behavioral sciences.

The following **undergraduate** course is a prerequisite for certain graduate courses offered by the department. Additional undergraduate prerequisites in other departments may be required. No graduate credits may be earned in this course.

SO 202 Introduction to Sociology U**3 credits**

Social structure, basic human institutions, analysis of social processes, major social forces.

The following courses may be taken for graduate credit. Certain of these courses may be required as degree and/or course prerequisites, and credit earned in them may not be counted toward meeting the minimum degree requirements of thirty graduate credits. In addition, the department may require degree and/or course prerequisites in other departments. When a course is approved for degree credit by the faculty adviser, credits earned with acceptable grades may be used in partial fulfillment of degree requirements.

SO 204 Sociology of Religion UG**3 credits**

Comparative study of religious systems and institutions, function and role of religion and the church in society; professional status, history and relations of the clergy.

SO 303 The Family UG**3 credits**

The family as a social institution in terms of its historical and cultural development. Analysis of psychological and social factors in contemporary family life. Prerequisite: SO 202, or AN 201, or AN 202.

SO 304 Social Stratification UG **3 credits**

Historical and contemporary examples of the range of stratification systems. Problems of class and caste, conflicts. Trends in class system and social mobility, with special attention given to similarities and differences of modern industrial societies. Prerequisite: SO 202, or AN 201, or AN 202.

SO 305 Sociology of Education UG **3 credits**

Educative factors in the social process. Some attention will be given to preliterate cultures and the functioning of the dominant institutions. Major emphasis on the relation of stratification to education, and of education to horizontal and vertical mobility. Social class and ethnic backgrounds will be examined for their relationship to the functioning of schools. Recent, well-known empirical findings will be discussed.

SO 306 Urban Sociology UG **3 credits**

A sociological and ecological analysis of the city in terms of urban institutional and personality patterns, folkways and mores. Ecological process and structure. The city as center of dominance over a trade area and hinterland. Prerequisite: SO 202, or ES 353, or AN 201, or AN 202.

SO 307 Urban Problems UG **3 credits**

Poverty, intergroup conflict, breakdown in education, crime, delinquency and urban riots will be examined. Special emphasis will be on new approaches in education in the city—decentralization, community control, relevant curriculum. This course is especially planned for students preparing for urban teaching. Experience in a problem area will be an integral part of the course. Prerequisite: SO 202, or ES 353, or AN 201, or AN 202.

SO 309 Introduction to Social Welfare UG **3 credits**

Institutional analysis of social welfare, social agencies. Sociological aspects of social work as a profession. Prerequisite: SO 202.

SO 310 Indian Cultural and Social Organization UG **3 credits**

A descriptive and analytical examination of societies of the Indian sub-continent dealing with their cultural histories, economic, social, political and religious institutions. Problems of Cultural and social change. Prerequisite: SO 202, or AN 201, or AN 202.

SO 312 Urban Minority Relations UG **3 credits**

A study of the relations between ethnic and racial groups in the United States, with particular attention to the Boston Irish, the Boston Italians, and the Negro-Americans. Concentration will be upon the Negro in America and the problems of identity. Prerequisite: SO 202, or AN 201, or AN 202, or ES 353.

SO 314 Case Work Methods UG**3 credits**

Case work is based on recognition of internal psychological problems and external social causes of an individual's failure to function satisfactorily. Techniques of interviewing. Theoretical study of human behavior. Experience in social work agencies. Prerequisite: SO 309.

SO 316 Social Problems I: Non-conforming Behavior UG**3 credits**

This course will deal with contemporary problems which are reflected in the behavior of individuals, but whose origins and causes lie outside of individuals. Topics treated will include drugs, dope-addiction, crime, juvenile delinquency, divorce and other family problems, mental illness and other health problems, social class, and selected social issues. Attention will be given to social factors regarded as major contributions to these problems. Prerequisite: SO 202.

SO 318 Social Problems II: Structural Discontinuities and Value Conflicts UG**3 credits**

A continuation of Social Problems I. Unemployment, mass poverty, problems of mass communication, world population growth, war, and other major problems involving total societal organizations. Problems will be treated from the standpoint of social change, resulting disorganization, and value conflict. Prerequisite: SO 202, SO 316, or permission of the instructor.

SO 320 The Sociology of Underdevelopment UG**3 credits**

The study of the "Third World," its kinship, economic, religious, political and international roots, present functions and possible future consequences. Prerequisite: SO 202, or AN 201.

SO 322 Field Experience Internship in Urban Relations UG**6 credits**

Direct field-experience contacts on day to day basis with selected urban social problems, with low income families, and with social agencies that are serving the disadvantaged. Students will become familiar with selected socio-cultural experiences associated with poverty. Useful for those who plan to become teachers in inner-city schools, employees in social work agencies, and/or who intend employment in related community positions. Prerequisites: SO 202 and permission of the Instructor.

SO 400 Seminar: Social Theory UG**3 credits**

The history of social theory and selected topics in modern social theories, analysis of alternative conceptual approaches and their methodological requirements. For majors in Sociology or Behavioral Sciences.

SO 402 Seminar: Research Methods in Sociology UG**3 credits**

Application of scientific methods to the analysis of social phenomena, methodological orientation in sociology, types of research procedure, nature of sociological variables. For majors in Sociology or Behavioral Sciences.

SO 411 Types of Asocial Personalities I UG**3 credits**

Intended for the mature undergraduate or graduate student. It uses the clinical method of instruction, having available, live case material. Topics covered include the development of asocial personalities, especially the alcoholic, drug addict, anti-social retarded, and sexually deviated. Prerequisite: SO 280 (An Introduction to Sociological Analysis U).

SO 412 Types of Asocial Personalities II UG**3 credits**

The intent and method is the same as in SO 411, Asocial Personalities I. The varieties of psychoses, assaultive epilepsies, and organic brain damages are considered. Current methods of detection and treatment are outlined. Prerequisite: SO 411 (Types of Asocial Personalities I UG)

SO 502 Thesis G**credit to be arranged**

Original research directly related to a thesis. A maximum of 6 credits may be earned in conjunction with an M.Ed. program. Prerequisite: Approval of the adviser and the departmental chairman.

SO 503 Independent Study G**credit to be arranged**

Investigation and/or research not directly related to a thesis. Enrollment in Independent Study (G) is limited to students who have been admitted to a master's degree program at Bridgewater State College. The number of credits earned in Independent Study (G) plus those earned in conjunction with a thesis may not total more than 10 for students enrolled in an M.Ed. program.

DIVISION OF THE CREATIVE ARTS
DIRECTOR: PROFESSOR RIDLON

Art**Music****Speech and Theatre**

The Division of the Creative Arts offers a program leading to the degree of Master of Education in Secondary Education with a concentration in creative arts. This program is designed for teachers and future teachers of creative arts. In addition to meeting general degree requirements, the student must complete the concentration requirement by electing courses appropriate to his degree program. All courses must be approved by the adviser. Courses which may be taken are listed under the several departments within the Division of the Creative Arts.

DEPARTMENT OF ART

Chairman: Assistant Professor Droege

Associate Professor: Tebbetts

Assistant Professors: Boyko, Kendall

Instructors: Haustrath (Appointed September, 1971), Heller

The Department of Art does not offer a program at the master's degree level at this time. Art courses may be taken in partial fulfillment of the creative arts concentration for the degree of Master of Education in Secondary Education with a concentration in creative arts.

The following courses may be taken for graduate credit. Certain of these courses may be required as degree and/or course prerequisites, and credit earned in them may not be counted toward meeting the minimum degree requirements of thirty graduate credits. In addition, the department may require degree and/or course prerequisites in other departments. When a course is approved for degree credit by the faculty adviser, credits earned with acceptable grades may be used in partial fulfillment of degree requirements.

AR 270 Basic Design UG **3 credits**

Two and three dimensional surfaces and their structural possibilities. Elements of plastic expression related to increasingly complex concepts of space and form arrangement.

AR 272 Drawing I UG **3 credits**

Basic concepts: perspective, modeling in light and dark, contour drawing. Exploration of various media: pencil, pen and ink, charcoal, ink wash, etc.

AR 273 Drawing II UG **3 credits**

Advanced projects will be planned according to the individual's style development and media preference. Prerequisite: AR 272 or permission of the Instructor.

AR 280 Understanding the Arts UG **3 credits**

Development of a framework for visual understanding and enjoyment. Analytical techniques applied to specific objects chosen for study. Attention focused on social, historical, and psychological factors. Assigned readings and museum visits.

AR 285 Textile Design I UG **3 credits**

Design as related to weaving, knotting, and crewel work. Student may choose according to individual interest.

AR 286 Textile Design II UG **3 credits**

Advanced problems and techniques. Prerequisite: AR 285 or permission of the Instructor.

AR 287 Painting I UG **3 credits**

Basic skills, picture organization, and oil painting techniques. Students will find individual solutions to assigned problems. Field trips to museums and galleries.

AR 288 Painting II UG	3 credits
Advanced projects will be planned according to the individual's style development. Prerequisite: AR 287 or permission of the Instructor.	
AR 291 History of Art UG	3 credits
Major developments in art from the Prehistoric through the late Gothic. Style is examined in relation to the historical process. Assigned readings and museum work. Prerequisite: AR 110 or AR 280, or permission of the Instructor.	
AR 292 History of Art II UG	3 credits
A continuation of AR 291 beginning with the Renaissance through the Modern era. The historical approach supplemented with analysis of stylistic problems. Assigned readings and museum work. Prerequisite: AR 291, or permission of the Instructor.	
AR 374 Art for Special Education UG	3 credits
Art education and theory and direct experience with a variety of materials and processes adapted to the needs of special education.	
AR 375 Materials and Methods UG	3 credits
Direct, creative experience with materials and processes related to the teaching of art in the public schools.	
AR 376 Wood Design UG	3 credits
An introduction to wood as a material of creative expression. Instruction will include the use of both hand and power tools. Emphasis will be on the aesthetic as well as the utilitarian use of the materials.	
AR 377 Glassblowing I UG	3 credits
Glass as a means of creative expression. Emphasis is upon the basic forming techniques and methods of design in glass. By permission of the Instructor only.	
AR 378 Glassblowing II UG	3 credits
Further exploration of glassblowing. Emphasis on studio equipment, design, and advanced technique. By permission of the Instructor only.	
AR 379 Sculpture UG	3 credits
Design experimentation with traditional and new techniques. Media will include wood, metal, and resins. Three two-hour periods weekly.	
AR 380 Ceramic Design UG	3 credits
Basic wheel forming and construction. Techniques in clay. Three two-hour periods weekly.	

AR 381 Wheel Throwing UG	3 credits
Advanced problems and experiences on the potters wheel, and aesthetics of ceramic design. Three two-hour periods weekly. Prerequisite: AR 380 or permission of the Instructor.	
AR 382 Clay and Glazes UG	3 credits
Advanced work in the chemistry and compounding of clay and glaze materials. Three two-hour periods weekly. Prerequisite: AR 380 or permission of the Instructor.	
AR 383 Metal Design I UG	3 credits
Basic design, construction, and forming techniques. Jewelry, constructed forms, sculpture. Three two-hour periods weekly.	
AR 384 Metal Design II UG	3 credits
Advanced problems and techniques. Three two-hour periods weekly. Prerequisite: AR 383 or permission of the Instructor.	
AR 385 Advanced Jewelry Design UG	3 credits
Specialized techniques for the design and creation of jewelry in precious metals, and experimental construction techniques with these metals. Three two-hour periods weekly. Prerequisite: AR 383 or permission of the Instructor.	
AR 387 Introduction to Printmaking UG	3 credits
An introduction to the basic methods, materials and processes used in printmaking. Three two-hour periods weekly.	
AR 390 Interior Design UG	3 credits
Traditional and contemporary styles in furniture and interior design studied in illustrated lectures and field trips. Problems in selection and arrangement of home furnishings.	
AR 394 Renaissance Art and Architecture UG	3 credits
The development of the arts of architecture, painting, and sculpture in the Early and High Renaissance, with special emphasis of their inter-relationships and their relation to the artistic theories and cultural ideals of the time.	
AR 395 Baroque Art UG	3 credits
Mannerist and Baroque styles of the 16th through 18th centuries will be studied, with emphasis on their origins in Italy and development through western Europe.	
AR 396 Modern Art UG	3 credits
Involves a study of painting, sculpture and architecture from Neo-Classicism to the present. Emphasis will be placed on major contemporary art movements.	

AR 398 Arts of the Far East UG **3 credits**

A selective review of major achievements in the Arts of the Asiatic tradition, including those of India, Indonesia, China, Korea, and Japan. Comparison, when appropriate, with the arts of the West.

AR 399 The Arts of the Americas UG **3 credits**

A survey of the arts of the early Americas, including the Inca, Toltec, Mayan, and Aztec cultures, with selected examples from the primitive Indian Arts of North America.

AR 400 Primitive Art UG **3 credits**

An investigation of the formal art properties and aesthetic qualities of Primitive Art, and an examination of the physical, psychological and sociological backgrounds which brought this art into being.

AR 502 Thesis G **credit to be arranged**

Original research directly related to a thesis. A maximum of 6 credits may be earned in conjunction with an M.Ed. program. Prerequisite: Approval of the adviser and the departmental chairman.

AR 503 Independent Study G **credit to be arranged**

Investigation and/or research not directly related to a thesis. Enrollment in Independent Study (G) is limited to students who have been admitted to a master's degree program at Bridgewater State College. The number of credits earned in Independent Study (G) plus those earned in conjunction with a thesis may not total more than 10 for students enrolled in an M.Ed. program.

DEPARTMENT OF MUSIC

Chairman: Professor Falkner

Associate Professors: Ferry, Gannon, Hayward

Assistant Professor: Liberles

Instructors: Rinald, Santos

The Department of Music does not offer a program at the master's degree level at this time. Music courses may be taken, in partial fulfillment of the creative arts concentration for the degree of Master of Education in Secondary Education with a concentration in creative arts, if approved by the adviser.

The following **undergraduate** course is a prerequisite for certain graduate courses offered by the department. Additional undergraduate prerequisites in other departments may be required. No graduate credits may be earned in these courses.

MU 160 Music Literature I U**3 credits**

A non-technical humanities elective which explores music from the Baroque through Contemporary periods with emphasis on how to listen to music intelligently. Selected works by the masters include symphonies, concertos, oratorios, operas and smaller works which are used for study, listening and discussion.

The following courses may be taken for graduate credit. Certain of these courses may be required as degree and/or course prerequisites, and credit earned in them may not be counted toward meeting the minimum degree requirements of thirty graduate credits. In addition, the department may require degree and/or course prerequisites in other departments. When a course is approved for degree credit by the faculty adviser, credits earned with acceptable grades may be used in partial fulfillment of degree requirements.

MU 131 Applied Voice (lower division) UG**1 or 2 credits**

Private lessons in voice for the beginning student and those with a limited background in singing. Basic concepts in posture, breathing, diction and vocalises stressed. Solo material selected from vocal literature in English with an introduction to literature in a foreign language. Permission of the Instructor required.

MU 140 Class Piano I UG**3 credits**

For beginning piano students who desire a fundamental approach to the keyboard. Includes correct use of the hands at the keyboard, playing of simple scales, chords, arpeggios and simple melodies, scale construction and use of I, IV and V chords.

MU 141 Applied Piano (lower division) UG**1 or 2 credits**

Private instruction for the beginning piano student and those with a limited background in piano. Material selected according to the ability of the students. May be repeated for credit.

MU 240 Class Piano II UG**3 credits**

A continuation of Music 140 with advanced keyboard work and more difficult melodies and rhythmic patterns. Use of II, III and VI chords, simple modulations and keyboard harmony. Prerequisite: MU 140 or permission of the Instructor.

MU 251 Choral Techniques UG**3 credits**

Investigation and study of voice, problems, unison and part singing, children's literature, solfeggio, melodic and rhythmic dictation. Prerequisite: MU 240 or permission of the Instructor.

MU 255 Music Materials for Elementary Teachers UG**3 credits**

Includes singing, use of instruments, listening, reading music and rhythmic activity. Prerequisite: MU 240 or permission of the Instructor.

MU 331 Applied Voice (upper division) UG	1 or 2 credits
Private lessons in voice for those who have satisfied the requirements of MU 131. A continuation of vocalises, breath control, solo material selected according to the ability and interest of the student from the literature of French, German and/or Italian composers as well as contemporary works in English.	
MU 341 Applied Piano (upper division) UG	1 or 2 credits
For the advanced student of piano who wishes to improve his ability at the keyboard. Material selected according to the ability of the student. Prerequisite: MU 141 or permission of the Instructor.	
MU 355 Creative Activities in Elementary School Music UG	3 credits
Practical experiences offered in free and directed rhythmic responses, use of melody, percussion and chording instruments, use of the piano and singing activities. Prerequisite: MU 240 and 255, or permission of the Instructor.	
MU 363 Music of the Renaissance and Baroque Periods UG	3 credits
A study of vocal and instrumental, sacred and secular music through readings, lectures, listening and discussion of selected compositions representative of these two periods. Prerequisite: MU 160 or permission of the Instructor.	
MU 364 Music of the Classical and Romantic Periods UG	3 credits
A study of vocal and instrumental music of these two periods through selected readings, lectures, listening and discussion. Prerequisite: MU 160 or permission of the Instructor.	
MU 365 Music of the Contemporary Period UG	3 credits
A study of present day music and its relationship to the past, includes experimental and electronic developments; readings, lectures, listening and discussion. Prerequisite: MU 160 or permission of the Instructor.	
MU 366 Music of the Opera UG	3 credits
A listener's approach to opera with representative examples from Peri to present day composers. Works by composers from Germany, France, and Italy will be studied along with contributions from England and America. Prerequisite: MU 160 or permission of the Instructor.	
MU 370 Music Skills UG	3 credits
For the elementary teacher or undergraduate student who wishes a knowledge of the basic fundamentals of music to use as a basis for further study in music. Includes scales, chords, singing, playing simple instruments and rudimentary harmonic progressions.	

MU 502 Thesis G**credit to be arranged**

Original research directly related to a thesis. A maximum of 6 credits may be earned in conjunction with an M.Ed. program. Prerequisite: Approval of the adviser and the departmental chairman.

MU 503 Independent Study G**credit to be arranged**

Investigation and/or research not directly related to a thesis. Enrollment in Independent Study (G) is limited to students who have been admitted to a master's degree program at Bridgewater State College. The number of credits earned in Independent Study (G) plus those earned in conjunction with a thesis may not total more than 10 for students enrolled in an M.Ed. program.

DEPARTMENT OF SPEECH AND THEATRE**Chairman: Associate Professor Barnett****Associate Professors: DuBin, Pitts, Warye****Assistant Professors: Dunne, Friedman, Levine****Instructors: Miskelly, Wuschke**

The Department of Speech and Theatre offers a program leading to the degree of Master of Education in Secondary Education with a concentration in speech and theatre. This program is designed primarily for teachers and future teachers of speech and theatre. It also prepares students for further graduate work in speech and theatre. In addition to meeting general degree requirements, the student must complete the departmental concentration requirement by electing courses appropriate to his degree program.

The following **undergraduate** courses are prerequisites for certain graduate courses offered by the department. Additional undergraduate prerequisites in other departments may be required. No graduate credits may be earned in these courses.

ST 200 Oral Communication U**3 credits**

Examination of the practical and theoretical aspects of listening, conversation, discussion, interviewing and public speaking.

ST 410 Voice and Diction U**3 credits**

Analysis of each student's habits of respiration, phonation, and articulation; exercises designed to correct poor habits. Physics and physiology of the vocal mechanism. Training in perception, differentiation, and production of the standard sounds of good American speech.

The following courses may be taken for graduate credit. Certain of these courses may be required as degree and/or course prerequisites, and credit earned in them may not be counted toward meeting the minimum degree requirements of thirty graduate credits. In addition, the department may require degree and/or course prerequisites in other departments. When a course is approved for degree credit by the faculty adviser, credits earned with acceptable grades may be used in partial fulfillment of degree requirements.

ST 290 Speech Improvement in the Classroom I UG**3 credits**

An introduction to the problems of normal language and speech development in children. A study of the most common functional and organic communication disorders, with emphasis placed on identification and treatment of these problems in the classroom situation. Lectures, reading, research.

ST 291 Phonetics UG**3 credits**

The primary emphasis of this course will be upon the study of the International Phonetic Alphabet, and its application to the sounds of the language. The factors of articulation, enunciation, and pronunciation will be noted along with drill work in connection with the sounds of acceptable speech. Further, stress will be placed upon an understanding of the vowels and consonants and upon modes of sound production. Prerequisite: ST 200.

ST 310 Oral Interpretation UG**3 credits**

This course will offer opportunity for the study and practice of various styles of presentation in the oral interpretation of prose and poetry. A detailed evaluation and analysis of that material which is suitable for preparation and delivery to the class will be made. This course is especially recommended for those students with a definite interest in literature and humanities. Prerequisite: ST 200.

ST 330 Creative Dramatics UG**3 credits**

This course is designed to give training and methodology in developing the child's creative faculties through the use of dramatic play. Students will participate in classroom exercises, and work in laboratory sessions with children in order to put into practice the concepts of preparation and evaluation learned through class discussion and lecture.

ST 360 Group Discussions UG**3 credits**

Principles of interpersonal communication in group situations with stress on participation, leadership and reasoning.

ST 370 Play Production UG**3 credits**

This course is designed to treat the various aspects of school play production, ranging from classroom to all-school presentations on the elementary or high school level. It deals with such problems as selecting a play, casting, directing, lighting, costuming and designing, and building scenery. Practical work in the above activities will be required of all students.

ST 380 Stagecraft UG**3 credits**

This course will offer the opportunity for the study of the principles of stagecraft. Students will also receive practical experience in the design, construction, painting, rigging and handling of stage scenery. In addition, lighting the stage and prop construction will be studied to a limited degree. Practical work in all areas will be required on a laboratory basis. Prerequisite: ST 370.

ST 390 Principles of Acting UG 3 credits

To develop an appreciation of and skill in the fundamentals of acting. Classroom exercises, improvisations, and scenes are aimed at providing the beginner with a basic technique which can be applied to the creation of any role. Prerequisite: ST 370.

ST 395 Principles of Directing UG 3 credits

To provide the basic knowledge and techniques the beginning director will need in order to interpret a play to an audience. Among the areas covered are play analysis, composition, movement, characterization, and rehearsal techniques. Prerequisite: ST 370.

ST 400 Creative Oral Techniques for Teaching UG 3 credits

In the advanced course the student is helped to assume leadership responsibilities in the development of both meaning and form in logical and creative modes of oral communication. The students learn to use the more complex areas of oral communication, i.e., role-playing, creative dramatics, story telling, interpretive reading and choral speaking to help him develop the total communicative process. Prerequisite: ST 200.

ST 420 Children's Theatre UG 3 credits

This course is designed as a survey of the history and objectives of theatre for the child audience. It examines some of the special techniques of acting, directing, and producing plays for children. Attention is given to play selection and adaptation of children's literature for dramatic presentation. Students will direct scenes or "Cuttings" as part of their class work. Prerequisite: ST 370.

ST 430 Theatre History UG 3 credits

Trends in dramatic and theatrical developments throughout the world, from Greece to contemporary drama.

ST 460 Discussion and Debate UG 3 credits

Through frequent practice and intensive study the student is trained in the principles and methods of communication as they apply to the group situation. The functional aspects of group membership, discussion, debate, logic, and leadership will be given particular attention. Prerequisite: ST 200.

ST 490 Speech Anatomy and Physiology UG 3 credits

Anatomy and physiology of speech and hearing mechanism. Background factors of speech disorders.

ST 493 Speech Reading and Auditory Training 3 credits

Habilitative and rehabilitative procedures for the deaf and hard of hearing with emphasis on auditory training, speech reading and speech conservation. Prerequisite: ST 410 or consent of the Instructor.

ST 502 Thesis G**credit to be arranged**

Original research directly related to a thesis. A maximum of 6 credits may be earned in conjunction with an M.Ed. program. Prerequisite: Approval of the adviser and the departmental chairman.

ST 503 Independent Study G**credit to be arranged**

Investigation and/or research not directly related to a thesis. Enrollment in Independent Study (G) is limited to students who have been admitted to a master's degree program at Bridgewater State College. The number of credits earned in Independent Study (G) plus those earned in conjunction with a thesis may not total more than 10 for students enrolled in an M.Ed. program.

DIVISION OF THE HUMANITIES**DIRECTOR: PROFESSOR RIDLON****English****Foreign Language****Philosophy**

The Division of the Humanities offers a program leading to the degree of Master of Education in Secondary Education with a concentration in humanities. This program is designed for teachers and future teachers of humanities. In addition to meeting general degree requirements, the student must complete the concentration requirement by electing courses appropriate to his degree program. All courses must be approved by the adviser. Courses which may be taken are listed under the several departments within the Division of the Humanities.

DEPARTMENT OF ENGLISH**Chairman: Professor Ridlon****Professors: Chellis, DeRocco, Sheinfeld****Associate Professors: Guerin, Jarvis, Joki, McGinnis, Yokelson****Assistant Professors: Anderson, Apstein, DeLisle, Johnson, Keener, Krishnamurti, Nerney, Smith, Toback, Watson, Wood****Instructors: Angell, Fanning, Porter, Poule, Stanton****Master of Arts**

The Department of English offers a program leading to the Master of Arts in English. An undergraduate major in English, with at least twenty-four hours of above average work in the discipline, is normally required for admission to this program.

In addition to meeting general degree requirements, the student must complete courses appropriate to his degree program, including the course called "Theory and Discipline of Literature."

Interested persons should make an appointment with the chairman of the department to discuss admission and degree requirements.

Master of Education

The Department of English offers a program leading to the degree of Master of Education in Secondary Education with a concentration in English. The program is designed primarily for teachers and future teachers of English. It also prepares students for further graduate work in English.

In addition to meeting general degree requirements, the student must complete the departmental concentration requirement by electing courses appropriate to his degree program.

Course Offerings

The following courses may be taken for graduate credit. Certain of these courses may be required as degree and/or course prerequisites, and credit earned in them may not be counted toward meeting the minimum degree requirements of thirty graduate credits. In addition, the department may require degree and/or course prerequisites in other departments. When a course is approved for degree credit by the faculty adviser, credits earned with acceptable grades may be used in partial fulfillment of degree requirements.

HU 201 Comparative Religion UG

3 credits

An examination of the origins, development, and basic tenets of the major world religions from earliest times to the Moslem era, with particular emphasis on ancient Near Eastern religions, Judaism, Christianity, and Islam.

EN 200 Advanced Composition UG

3 credits

Expository writing is taught through frequent practice, analysis of models, and criticism by instructor and students. Opportunity is available for the student to develop his writing in any specific area he chooses, but emphasis will be on satire, argument, critical analysis, exposition, and description. Some attention will be given to the major developments in English prose style since 1600.

EN 201 Writing and the Teaching of Writing UG

3 credits

Writing, criticism, creativity. Student participation in criticism as a learning device and as a means to a reasonable load for the teacher. Objective is to improve the student's writing skill by the same techniques he can use in teaching the skill.

EN 211, 212 Literary Classics of Western Civilization UG

3 credits each

Through classic examples of epic, myth, sacred history, parable, allegory, tragic and comic drama, philosophical dialogue, satire, lyric, and novel, the student will be introduced to the principal literary forms through which great writers, from ancient times to the twentieth century, have contributed to the religious, intellectual, moral, and esthetic traditions of Western culture.

EN 215 Comparative Drama UG**3 credits**

A study of plays of different periods dealing with the same mythological or historical themes. Included will be plays on the Oedipus theme, from Sophocles to Cocteau; plays about the House of Atreus, from Aeschylus to Sartre; plays about Antony and Cleopatra, from Shakespeare to Shaw; and plays about Joan of Arc, from Schiller to Anouilh. The larger purpose of the course will be to explore the freedom within limits of an artist who chooses to work with established plot materials.

EN 221, 222 Major English Writers UG**3 credits each**

Representative works by the major English writers will be studied both formally and historically to develop an understanding of the genres, styles, and themes which characterize English imaginative and critical writing. The first semester will examine works from the Anglo-Saxon period to the eighteenth century; the second, works of the nineteenth and twentieth centuries.

EN 225 The Theme of Love UG**3 credits**

Various literary treatments of the theme of love will be approached through such works as the following: Chaucer, Troilus and Criseyde; Donne, Poetry; Shakespeare, Romeo and Juliet, Antony and Cleopatra; Dryden, All for Love; Byron, Don Juan, Cantos I-IV; Bronte, Wuthering Heights; Browning, Poems; Henry James, The American or The Portrait of a Lady; Lawrence, Sons and Lovers; Hemingway, A Farewell to Arms.

EN 230 Creative Writing UG**3 credits**

Fiction, non-fiction, verse, drama or any experimental forms may be undertaken by the student. Class discussions will center on the examination of both professional and student efforts. Frequent conferences will be held with individual students.

EN 231, 232 Major American Writers UG**3 credits each**

Survey of American Literature from the Colonial beginnings to the present. Writers such as Franklin, Edwards, Irving, Poe, Hawthorne, Emerson, Whitman, Dickinson, Twain, James, Frost, Eliot, Faulkner, and Hemingway will be studied in their social and cultural contexts.

EN 235 The Short Novel UG**3 credits**

Works selected from such writers as Conrad, James, Faulkner, Mann, Kafka, and Dostoevsky. Prerequisite: Permission of the Instructor.

EN 241, 242 Shakespeare UG**3 credits**

Introduction to Shakespeare's plays set against the background of the times. Representative selections from the tragedies, comedies, and histories will be studied in detail.

EN 260 Literature of the Continental Renaissance UG	3 credits
Selected works of Petrarch, Boccaccio, Machiavelli, Erasmus, Castiglione, Rabelais, Cellini, Montaigne, Cervantes, and Ronsard representing prevailing literary themes and techniques. Lectures and discussions on the art, history, philosophy, and music of the age will be offered by faculty in these disciplines.	
EN 280 Journalism UG	3 credits
To develop skills in copyediting and proofreading with special emphasis given to objective news story writing. Some attention will be given to dramatic criticism and sports writing. The workshop approach will be used.	
EN 290 Realism and Naturalism in American Literature UG	3 credits
Studies in the fiction of Howells, James, Stephen Crane, Frank Norris, Theodore Dreiser, and in the twentieth-century extensions of realism in the novels of writers such as Sinclair Lewis, Sherwood Anderson, Dos Passos and Farrell. Attention will also be paid to the proselytizing criticism of the first generation of realists, notably James's Prefaces and Howells' essays.	
EN 300 The History and Structure of the English Language UG	3 credits
Changes in the structure of the English language from Anglo-Saxon to modern English will be studied with attention to pertinent historical background. There will be an introductory study of structural linguistics and generative grammar.	
EN 305 History of the English Language UG	3 credits
Origins and development of English. Selected readings in Old and Middle English.	
EN 311 The Negro in U. S. Literature UG	3 credits
Autobiographies and fiction beginning chronologically with The Life of Frederick Douglass , with particular attention paid to Uncle Tom's Cabin , Native Son , and Invisible Man . Prerequisite: EN 231 or EN 331 or permission of the Instructor.	
EN 312, 313 Studies in Modern British Fiction UG	2 credits for each quarter
Readings in selected twentieth-century British novelists. First quarter: E. M. Forster and D. H. Lawrence. Second quarter: James Joyce and Graham Greene. Prerequisite: EN 222 or permission of the Instructor.	
EN 314 Medieval English Literature UG	2 credits for each quarter
Selected readings in non-Chaucerian writing: Langland, Gower, romance, lyrics, drama. Four periods weekly each quarter. Prerequisite: EN 211, or EN 221 or permission of the Instructor.	

EN 320 Chaucer UG **3 credits**

Troilus and Criseyde and selected readings from the **Canterbury Tales**.
Prerequisite: EN 222 or permission of the Instructor.

EN 322 The Age of Pope UG **3 credits**

The literature of the neo-classical period, with emphasis on the works of Pope, Swift, Gay, Addison and Steele.

EN 323 Linguistics UG **3 credits**

The generative-transformational theory of syntactic structures as applied to the English language. Selected readings on various aspects of linguistics.

EN 330 Modern American Fiction UG **3 credits**

Selected readings in Fitzgerald, Hemingway, and Faulkner. Prerequisite: EN 232 or permission of the Instructor.

EN 331 U. S. Literature in the Nineteenth Century UG **3 credits**

Selected readings in C. G. Brown, Cooper, Hawthorne, Poe, Emerson, Thoreau, Whitman, and Dickinson.

EN 332 U. S. Literature in the Nineteenth Century UG **3 credits**

The novels and tales of Melville, Twain, Hawthorne, and James. Prerequisite: EN 231 or EN 331.

EN 335 Elizabethan and Jacobean Drama UG **3 credits**

Reading and discussion of a number of plays with attention to contemporary social developments as well as to the historical development of the English Play.

EN 338 The Short Story UG **3 credits**

The primary focus in The Short Story will be on the examination of the relationship between form and content in several British, American and continental short stories. A secondary concern will center on the historical development of the genre.

EN 340 Literature of the English Renaissance UG **3 credits**

The non-dramatic literature of the Age of Shakespeare will include the reading of works by such writers as Sidney, Spenser, Nashe, Marlowe, and Drayton. Although the emphasis will be on textual analysis, the historical, social, and cultural background of the period will also be examined.

EN 346 Southern Literature UG**3 credits**

Beginning with the Fugitives in the 1930's (Robert Penn Warren, Allen Tate, John Crowe Ransom, and Donald Davidson primarily) and their concern with the problem of the Southern writer's coming to grips with his identity as both a Southerner and an artist, the focus will center on the writings of such contemporary figures as William Faulkner, Tennessee Williams, Katherine Anne Porter, Flannery O'Connor, Carson McCullers, Eudora Welty, and Peter Taylor.

EN 350 The Modern English Novel UG**3 credits**

A selective survey of major contributors to the English novel from Joseph Conrad through the school of the "Angry Young Men." Major attention will be given to the analysis of specific texts.

EN 353, 354 Modern Drama UG**3 credits each**

The main forces in Modern European drama. Starting with Ibsen.

EN 356 Modern American Drama UG**3 credits**

Selected plays of dramatists from O'Neill to Albee.

EN 360, 361 The English Novel UG**3 credits each**

The development of the English novel, including the works of Defoe, Richardson, Fielding, Smollett, Sterne, Austin, and Scott in the first semester, and Dickens, the Brontes, Thackeray, Eliot, Trollope, Conrad, and Hardy in the second semester.

EN 365 Victorian Prose and Poetry UG**3 credits**

The major emphasis will be placed upon the poetry of Tennyson, Browning, and Arnold, but the works of other 19th century poets such as Hopkins and Hardy will also be read and discussed. The essays of Carlyle, Arnold, Newman, Huxley, and others will also be studied.

EN 366 Tennyson, Arnold, Browning UG**3 credits**

These major nineteenth-century authors will be studied in some detail, with particular reference to the historical, social, and cultural milieu within which they wrote.

EN 337 English Literature of the 1890's UG**3 credits**

The minor writers of the late nineteenth century will be examined from an esthetic, social, and intellectual point of view.

EN 380 Milton UG**3 credits**

Emphasis will be placed on the main poetical works of Milton: *Paradise Lost*, *Paradise Regained*, and *Samson Agonistes*. However, certain of the minor poetic works, as well as selected prose will be read also. Prerequisite: permission of the Instructor.

EN 383 Modern Irish Literature UG **3 credits**

Includes Irish writing from 1890 to the present, with special emphasis on the works of Yeats, Synge, O'Casey, Joyce, O'Connor, and O'Faolain.

EN 386 English Romantic Poets UG **3 credits**

The chief works of Wordsworth, Coleridge, Byron, Shelley, and Keats will be studied. Emphasis will be placed on textual analysis, but consideration will be given to historical background and to developments in philosophy and esthetic theory which have a direct bearing on Romantic poetry.

EN 387 Indo-Anglian Literature UG **3 credits**

This course will deal with literature written in English by Indian writers. The emphasis will be on fiction, particularly the novels and short stories dealing with the conflict between old and new in Indian national life.

EN 390 Literary Criticism UG **3 credits**

The history of literary criticism from Aristotle to the present. Emphasis will be placed, however, on those persistent esthetic, psychological, social, and cultural patterns which have helped shape the literature of our own age.

EN 391 Modern Literary Criticism UG **3 credits**

Several twentieth-century critical approaches to literary analysis, interpretation, and evaluation. Particular attention will be given to literary concepts derived from psychoanalysis, sociology, anthropology, semantics, philosophy, and theology. Such topics as existentialist criticism, the "new criticism," and the theory of myth and symbol will be considered.

EN 392 Modern Poetry UG **3 credits**

The major British and American poets of the 20th century with particular emphasis on the works of Hopkins, Yeats, Robinson, Eliot, Auden, and Thomas.

EN 393 Modern British Poetry UG **3 credits**

The major British poets of the twentieth century with particular emphasis on the works of Hopkins, Yeats, Eliot and Thomas.

EN 394 Modern American Poetry UG **3 credits**

The major American poets of the twentieth century with particular emphasis on the works of Robinson, Frost, Williams and Stevens.

EN 395 Eighteenth Century Literature UG **3 credits**

The writings of several major literary figures, such as Swift, Boswell, Johnson, Defoe, Fielding, and Richardson.

EN 400 Techniques of Literary Research UG	3 credits
Research procedures, with special reference to the materials and methods of literary study and publication. Various critical approaches to literature will be examined, and some evaluation of scholarly procedure will be made.	
EN 495 Seminar in English Literature	3 credits
This seminar, limited to seniors, honors candidates, and graduate students, will pursue in depth certain themes and authors in English literature, the topic changing from year to year.	
EN 496 Seminar in American Literature	3 credits
This seminar, limited to seniors, honors candidates, and graduate students, will pursue in depth certain themes and authors in American literature, the topic changing from year to year.	
EN 497 Seminar in World Literature	3 credits
This seminar, limited to seniors, honors candidates, and graduate students, will pursue in depth certain themes and authors in world literature, the topic changing from year to year.	
EN 500 Theory and Discipline of English G	3 credits
This course, normally open only to graduate students, will examine the backgrounds to, and the techniques of scholarship, in the field of literature. Some acquaintance with critical approaches to literature, as well as comprehensive experience in the major genres and periods of English and American literature, will be assumed.	
EN 502 Thesis G	credit to be arranged
Original research directly related to a thesis. A maximum of 6 credits may be earned in conjunction with an M.Ed. program. Prerequisite: Approval of the adviser and the departmental chairman.	
EN 503 Independent Study G	credit to be arranged
Investigation and/or research not directly related to a thesis. Enrollment in Independent Study (G) is limited to students who have been admitted to a master's degree program at Bridgewater State College. The number of credits earned in Independent Study (G) plus those earned in conjunction with a thesis may not total more than 10 for students enrolled in an M.Ed. program.	

DEPARTMENT OF FOREIGN LANGUAGES

Chairman: Associate Professor Arruda

Associate Professors: Briggs, Giannini, Judah

Assistant Professors: Cotugno, Dawley, George, Padula, Reordan, Shapiro

Instructor: Desautels

The Department of Foreign Languages offers a program leading to the degree of Master of Education in Secondary Education with a concentration in foreign languages. This program is designed primarily for teachers and future teachers of foreign languages. It also prepares students for further graduate work in foreign languages. In addition to meeting general degree requirements, the student must complete the departmental concentration requirement by electing courses appropriate to his degree program.

The following **undergraduate** courses are prerequisites for certain graduate courses offered by the department. Additional undergraduate prerequisites in other departments may be required. No graduate credits may be earned in these courses.

French

LF 101, 102 Elementary French U 3 credits for each semester

An introduction to written and spoken French. Limited to those students with no previous study of the French language. Four periods weekly.

IE 103, 104 Basic French U 3 credits for each semester

A review and continuation of the study of the essentials of the language. Intended for those students with some previous study of the French language. Four periods weekly.

LF 151, 152 Intermediate French A U 3 credits for each semester

A rapid review of French grammar with stress on essential grammatical points and the development of reading ability. Prerequisite: LF 102 or 104.

LF 153, 154 Intermediate French B U 3 credits for each semester

A rapid review of French grammar with stress on the development of oral skills. Readings in the current language. Prerequisite: LF 102 or 104.

German

LG 101, 102 Elementary German I **3 credits for each semester**

An introduction to the study of the German language. Emphasis on correct pronunciation and basic grammar. Four periods weekly.

LG 151, 152 Intermediate German U **3 credits for each semester**

A systematic review of basic German grammar. Graded reading selections and an introduction to aspects of German culture. Prerequisite: LG 102.

Portuguese

- LP 101, 102 Elementary Portuguese U** **3 credits for each semester**
An introduction to the basic skills of reading and writing, and the development of aural comprehension and correct oral pronunciation. Four periods weekly.

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| LP 151, 152 Intermediate Portuguese U | 3 credits for each semester |
| A review of basic grammar and pronunciation and a more advanced study of these two aspects of the language. Reading, writing, and oral proficiency will be stressed. Prerequisite: LP 102. | |

Russian

- LR 101, 102 Elementary Russian U** **3 credits for each semester**
Simultaneous development of the four fundamental language skills. Classwork supplemented by laboratory drills. Four periods weekly.

- LR 151, 152 Intermediate Russian U** **3 credits for each semester**
Consolidation of elementary Russian through review of basic elements, plus written and oral self-expression based on detailed readings of selected texts. Prerequisite: LR 102.

Italign

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|---|------------------------------------|
| LT 101, 102 Elementary Italian U | 3 credits for each semester |
| An aural-oral approach to the grammar of the Italian language. Emphasis is on the mastery of correct pronunciation and of fundamental grammatical points to ensure a basic oral, reading, and written command of the language. Four periods weekly. | |

- LT 151, 152 Intermediate Italian U** **3 credits for each semester**
A continuation of Elementary Italian, with stress on essential grammatical features, oral work, and reading and writing development in the language. Prerequisite: LT 102.

Spanish

- LS 101, 102 Elementary Spanish U** **3 credits for each semester**
An introduction to the essentials of Spanish pronunciation and grammar. Reading, writing, aural and oral proficiency will be stressed. Four periods weekly.

- LS 151, 152 Intermediate Spanish U** **3 credits for each semester**
A review of basic grammar and correct pronunciation to further an audio-oral command of the language. Aspects of Hispanic culture will be introduced. Prerequisite: LS 102.

The following courses may be taken for graduate credit. Certain of these courses may be required as degree and/or course prerequisites, and credit earned in them may not be counted toward meeting the minimum degree requirements of thirty graduate credits. In addition, the department may require degree and/or course prerequisites in other departments. When a course is approved for degree credit by the faculty adviser, credits earned with acceptable grades may be used in partial fulfillment of degree requirements.

LF 181, 182 Advanced French UG **3 credits each**

A concentration on more advanced aspects of the spoken and written French language. Oral practice through individual classroom participation. Prerequisite: LF 151, 154, or its equivalent.

LF 201 French Literature of the Middle Ages UG **3 credits**

A survey of representative works of the Middle Ages in modern French translation. Prerequisite: LF 181, 182, or its equivalent.

LF 252 Sixteenth Century French Literature UG **3 credits**

A study of the poetry, prose, and theatre of the sixteenth century, noting the transition from the late Middle Ages through the Renaissance. Prerequisite: LF 201 or its equivalent.

LF 281 French Conversation and Civilization UG **3 credits**

Improvement of oral expression and pronunciation. Assigned topics on aspects of French Civilization to build vocabulary and to apply structures learned. Prerequisite: LF 181, 182, or its equivalent.

LF 301 17th Century French Literature UG **3 credits**

The principal historical events and representative authors and genres of France of the seventeenth century will be studied with the object of understanding Classicism as a literary movement. Prerequisite: LF 201, and 252, or their equivalent.

LF 352 18th Century French Literature UG **3 credits**

The literary contributions of the Enlightenment and Encyclopedists to the French Revolution and pre-Romanticism. Prerequisite: LF 301 or permission of the Instructor.

LF 381 French Linguistics and Phonetics UG **3 credits**

A linguistic approach to the sounds of the French language with emphasis on a mastery of the elements of correct standard pronunciation. Prerequisite: LF 181, 182, or its equivalent.

LF 401 19th Century French Literature UG **3 credits**

Through representative works, the entire 19th century will be surveyed with special emphasis on principal literary movements; Romanticism, Realism, and Symbolism. Prerequisite: LF 201, 252, 301, 352, or their equivalent.

LF 451 20th Century French Literature UG 3 credits

Literary trends will be discussed and typical works of well known authors will be read for class work and individual reports. Barres, France, Gide, Proust, Claudel, Romans, Sartre, Camus. Prerequisite: LF 201, 252, 301, 352, or their equivalent.

LF 481 Advanced French Composition and Grammar UG 3 credits

A thorough study of French grammar to develop a written command of the French language. Prerequisite: LF 181, 182, or its equivalent.

German

LG 154 Scientific German UG 3 credits

An introduction to the reading and translating of scientific material. Open to science majors as a substitution for LG 152. Prerequisite: LG 151, or its equivalent.

LG 181, 182 Advanced German UG 3 credits each

Introduction to a more advanced level of the literature. Representative German authors will be read and discussed. Prerequisite: LG 151, 152, or its equivalent.

LG 201, 202 Survey of German Literature UG 3 credits each

German literature from its earliest beginnings to the present day. Representative works of the principal literary periods will be read and discussed. Prerequisite: LG 181, 182, or its equivalent.

LG 282 German Conversation and Civilization UG 3 credits

Designed to develop further the student's command of spoken German. Discussion topics will center upon aspects of German civilization and culture. Prerequisite: LG 181, 182, or its equivalent.

LG 301, 302 Modern German Literature UG 3 credits each

Principal works and authors of contemporary German literature. Prerequisite: LG 201, 202, or its equivalent.

LG 351 German Romanticism UG 3 credits

Pertinent authors and their representative works. Romanticism as a literary movement. Prerequisite: LG 201, 202, or its equivalent.

LG 382 Medieval German Literature UG 3 credits

The beginnings of German literature through principal works of the period. Prerequisite: LG 201, 202, or its equivalent.

LG 401 The Age of Goethe and Schiller UG 3 credits

The Storm and Stress Period and Classical Period of German literature, with a focus upon Goethe and Schiller as the leading representatives of these movements. Prerequisite: LG 201, 202, or its equivalent.

LG 451 German Drama, Prose and Poetry of the 19th Century UG 3 credits

Representative writers of the century will be read and discussed, with particular emphasis upon Grillparzer, Kleist, Keller and Storm. Prerequisite: LG 201, 202, or its equivalent.

Portuguese**LP 181, 182 Advanced Portuguese UG 3 credits each**

Stress on improvement of compositional and aural-oral skills. Literary texts from Portuguese literature. History of Portugal. Prerequisite: LP 151, 152, or its equivalent.

Russian**LR 181, 182 Advanced Russian UG 3 credits each**

Progressive development of the student's language proficiency through reading of scientific and literary texts, oral practice and written compositions. Prerequisite: LR 151, 152, or its equivalent.

Italian**LT 181, 182 Advanced Italian UG 3 credits each**

A review of basic Italian grammar and presentation of more advanced structural elements. Stress on improvement of compositional and aural-oral skills. Varied cultural reading selections. Prerequisite: LT 151, 152, or its equivalent.

Spanish**LS 181, 182 Advanced Spanish UG 3 credits each**

A more detailed study of Spanish grammar. Vocabulary development, correct pronunciation, and improved audio-oral skills. Cultural readings from Hispanic world. Prerequisite: LS 151, 152, or its equivalent.

LS 201, 202 Survey of Spanish Literature UG 3 credits each

Major literary movements, works and authors of peninsular Spanish literature from earliest times to the present. Prerequisite: LS 181, 182, or its equivalent.

LS 281 Spanish Conversation and Linguistics-Phonetics UG 3 credits

Improvement of oral proficiency by a systematic study of the sounds of correct pronunciation. Prerequisite: LS 181, 182, or its equivalent.

LS 282 Spanish Composition and Civilization UG 3 credits

An introduction to the history, geography, social institutions, and culture of Spain. Prerequisite: LS 181, 182, or its equivalent.

LS 301 The Golden Age of Spanish Literature UG **3 credits**

A study of the poetry, prose and theatre from the second half of the sixteenth century to the Baroque period. Emphasis will be on the mystics, Gongora, Lope de Vega, Calderon, and Quevedo. Prerequisite: LS 201, 202, or its equivalent.

LS 351 Cervantes UG **3 credits**

A study of the man and his works, with special emphasis on "Don Quixote." Prerequisite: LS 201, 202, or its equivalent.

LS 382 The Middle Ages UG **3 credits**

The evolution of Spanish literature through the first half of the 16th Century, Romances, Poema del Cid, La Celestina, Lazarillo de Tormes, El libro de Buen Amor. Prerequisite: LS 291, 202, or its equivalent.

LS 401 19th Century Spanish Literature UG **3 credits**

The Romantic and Realist Movements. Representative work of the novel, poetry, and drama. Caballero, Alarcon, Galdos, Clarin, Bazan, Ibanez, Duque de Rivas, Gutierrez, Espronceda, Larra. Prerequisite: LS 201, 202, or its equivalent.

LS 451 20th Century Spanish Literature UG **3 credits**

The Spanish novel, essay, poetry and drama from the Generation of '98 to the present. Unamuno, Baroja, Azorin, Machado, Jimenez, Lorca, Casona, Cela. Prerequisite: LS 201, 202, or its equivalent.

FL 502 Thesis G **credit to be arranged**

Original research directly related to a thesis. A maximum of 6 credits may be earned in conjunction with an M.Ed. program. Prerequisite: Approval of the adviser and the departmental chairman.

FL 503 Independent Study G **credit to be arranged**

Investigation and/or research not directly related to a thesis. Enrollment in Independent Study (G) is limited to students who have been admitted to a master's degree program at Bridgewater State College. The number of credits earned in Independent Study (G) plus those earned in conjunction with a thesis may not total more than 10 for students enrolled in an M.Ed. program.

DEPARTMENT OF PHILOSOPHY

Chairman: Assistant Professor Cheney

Associate Professors: Corkery, Joyal

Assistant Professor: Sanders (Appointed September, 1971)

The Department of Philosophy does not offer a program at the master's degree level at this time. Philosophy courses may be taken in partial fulfillment

of the humanities concentration for the degree of Master of Education in Secondary Education with a concentration in humanities.

The following courses may be taken for graduate credit. Certain of these courses may be required as degree and/or course prerequisites, and credit earned in them may not be counted toward meeting the minimum degree requirements of thirty graduate credits. In addition, the department may require degree and/or course prerequisites in other departments. When a course is approved for degree credit by the faculty adviser, credits earned with acceptable grades may be used in partial fulfillment of degree requirements.

PL 400 Comparative Religions UG **3 credits**

This course is designed to introduce to the students the tenets of the major religions.

PL 401 Philosophy of Natural Science UG **3 credits**

Inquiry into the conceptual foundations of natural science, including topics of induction, causation and determinism, natural law, theoretical explanation, and concept formation.

PL 403 Philosophy and the Arts UG **3 credits**

Inquiry into recurrent philosophical themes in literature and the fine arts, accompanied by an introduction to the fundamental problems of aesthetics.

PL 410 Existentialism UG **3 credits**

A critical study of the existentialist movement in philosophy, concentrating on the concepts of human existence, anxiety, freedom decision, introduction to phenomenology. Reading from Kierkegaard, Heidegger, Sartre, Jaspers, Camus.

PL 450 Philosophy Seminar UG **3 credits**

Study of a particular philosopher and/or selected philosophical problems. Topics vary, course may be repeated. Limited enrollment, admission only by consent of Instructor.

PL 502 Thesis G **credit to be arranged**

Original research directly related to a thesis. A maximum of 6 credits may be earned in conjunction with an M.Ed. program. Prerequisite: Approval of the adviser and the departmental chairman.

PL 503 Independent Study G **credit to be arranged**

Investigation and/or research not directly related to a thesis. Enrollment in Independent Study (G) is limited to students who have been admitted to a master's degree program at Bridgewater State College. The number of credits earned in Independent Study (G) plus those earned in conjunction with a thesis may not total more than 10 for students enrolled in an M.Ed. program.

DIVISION OF NATURAL SCIENCES AND MATHEMATICS
DIRECTOR: DEAN HILFERTY

Biological Sciences

Chemical Sciences

Earth Sciences & Geography

Mathematics

Physics

DEPARTMENT OF BIOLOGICAL SCIENCES

Chairman: Professor Howe

Commonwealth Professor: Hilferty

Professors: Brennan, Cirino, Mish, Wall

Associate Professors: Hewitson, Morin

Assistant Professors: Jahoda, Schaefer

Master of Arts

The Department of Biological Sciences offers a program leading to the degree of Master of Arts in Biology, which is designed to prepare qualified students for research, further graduate study and teaching. An undergraduate major in biology, or its equivalent, is normally required for admission to this program. The student should have satisfactorily completed at least one semester of general botany and one semester of general zoology (or credits in a general biology course) as well as at least two semesters of calculus, organic chemistry and general physics.

In addition to meeting general degree requirements the student must complete courses appropriate to his degree program.

Master of Education

The Department also offers a program leading to the degree of Master of Education in Secondary Education with a concentration in biology. This program is designed for teachers and future teachers of biology. It also prepares students for further graduate work in biology.

In addition to meeting general degree requirements, the student must complete the departmental concentration requirement by electing courses appropriate to his degree program.

Course Offerings

The following **undergraduate** courses are prerequisites for certain graduate courses offered by the department. Additional undergraduate prerequisites in other departments may be required. No graduate credits may be earned in these courses.

BI 101 Introduction to the Biological Sciences I (General Botany) U 3 credits

The botanical aspects of biology with emphasis on the structure and function of cells, tissues, organs, and the plant body, together with a general survey of the plant kingdom. Such topics as photosynthesis, water relations, respiration, growth, reproduction, heredity, disease, and evolution are included. BI 101-102 are coordinated so that concepts common to plants and animals are taught in one semester or the other and not duplicated. Students are expected to complete both courses.

BI 102 Introduction to the Biological Sciences II (General Zoology) U 3 credits

The zoological aspects of biology with emphasis on such topics as: the nature of sciences and scientific thinking; the structure and physiology of cells, tissues, organs, and organ-systems; embryogeny; heredity; ecological and phylogenetic interrelationships; and a general survey of the animal kingdom. BI 101-102 are coordinated so that various concepts common to plants and animals are taught in one semester or the other and not duplicated. Students are expected to complete both courses.

The following courses may be taken for graduate credit. Certain of these courses may be required as degree and/or course prerequisites, and credit earned in them may not be counted toward meeting the minimum degree requirements of thirty graduate credits. In addition, the department may require degree and/or course prerequisites in other departments. When a course is approved for degree credit by the faculty adviser, credits earned with acceptable grades may be used in partial fulfillment of degree requirements.

BI 281 Invertebrate Zoology UG 3 credits

The biology of invertebrates from a phylogenetic standpoint with emphasis on: taxonomy, morphology, histology, physiology, development, and natural history. Representatives of the principal classes of each phylum are studied. Prerequisite: BI 102 or permission of the Instructor.

BI 282 Comparative Chordate Anatomy UG 3 credits

An ontogenetic and phylogenetic survey is made of chordate gross anatomy, supplemented by laboratory dissections of representative species. Emphasis is placed on ecomorphology and the changes in chordate structure and biology that comprise their evolution, with an analysis of the significance of these changes in light of our modern knowledge of evolution. Prerequisite: BI 101-102 or permission of the Instructor.

BI 283 Field Natural History UG 3 credits

The identification of local plants and animals with emphasis on the natural history of common animals, dominant biotic communities of South-eastern Massachusetts, general morphology and taxonomy of organisms, and techniques of collecting and preserving. Prerequisite: BI 101-102 or permission of the Instructor.

BI 292 Plant Anatomy UG **3 credits**

A comparative study of the structural, functional, developmental and phylogenetic characteristics of cells, tissues and organs in the vascular plants with emphasis on the angiosperms. Prerequisite: BI 101, or permission of the Instructor.

BI 300 Biochemistry UG **3 credits**

A study is made of the functions, chemical transformations, and attendant energy changes associated with basic biological phenomena. Prerequisite: BI 101-102, CH 131-132, and MA 103-104, or permission of the Instructor.

BI 381 General and Comparative Physiology UG **3 credits**

Physiological principles concerned in irritability, contraction, circulation, gas exchange, excretion, and hormonal regulation. Prerequisite: BI 102, CH 131-132, PH 181-182, and MA 103-104, or permission of the Instructor.

BI 385 Mammalian Physiology UG **3 credits**

General physiological principles and their application to the human body. Prerequisite: BI 101, BI 102, CH 200, PH 200, or permission of the Instructor.

BI 393 Genetics UG **3 credits**

The basic principles of heredity and variation in plants and animals, with emphasis on problem solving and historical development of the science. Prerequisite: BI 101-102, MA 103-104, or permission of the Instructor.

BI 395 Microbiology UG **3 credits**

An introduction to the structure, function, and ecology of microorganisms with emphasis on bacteria and viruses. Prerequisite: BI 101-102, CH 131-132, or permission of the Instructor.

BI 397 Plant Physiology UG **3 credits**

The growth and function of plants including cellular physiology, water relations, metabolism, respiration, photosynthesis, nutrition, growth regulation, and the influence of environment. Prerequisite: BI 101 and CH 131-132, or permission of the Instructor.

BI 405 Systematics and Evolution UG **3 credits**

The theory of evolution and the operation of evolutionary forces as related to modern taxonomy, with emphasis on such topics as mutations, variations, hybridization, polyploidy, isolation, natural selection, population genetics, and the Zoological and Botanical Codes. Prerequisite: BI 393 or permission of the Instructor.

BI 410 Marine Biology UG**3 credits**

An introduction to the marine ecosystems with emphasis on factors involved in the growth, diversity, and distribution of populations occupying the marine habitats of the Eastern Atlantic coast. Prerequisite: BI 281, BI 283, BI 393, BI 397, CH 131-132, MA 103-104, PH 181-182, or permission of the Instructor.

BI 411 Ecology UG**3 credits**

The dynamics and evolution of populations, communities, and ecosystems. Students become acquainted with the communities of Southeastern Massachusetts through field studies. Prerequisites: BI 281, BI 283, BI 393, BI 397, CH 131-132, MA 103-104, PH 181-182, or permission of the Instructor.

BI 413 Mycology UG**3 credits**

An introduction to the fungi: their structure, taxonomy, physiology, and genetics. The techniques and importance of the fungi in solving biological problems will be stressed. Prerequisite: BI 393, and CH 131-132, or permission of the Instructor.

BI 422 Radiation Biology UG**3 credits**

The utilization, safety precautions and biological effects of unstable isotopes and electromagnetic radiation. Prerequisite: BI 101-102, CH 131-132, MA 103-104, PH 181-182, or permission of the Instructor.

BI 427 Cytology UG**3 credits**

Cellular morphology and organization including descriptions of major intracellular processes and the functional significance of cellular structures. Prerequisite: BI 101-102, or permission of the Instructor.

BU 502 Thesis G**credit to be arranged**

Original research directly related to a thesis. A maximum of 10 credits may be earned in conjunction with an M.A. program. A maximum of 6 credits may be earned in conjunction with an M.Ed. program. Prerequisite: Approval of the adviser and the departmental chairman.

BI 503 Independent Study G**credit to be arranged**

Investigation and/or research not directly related to a thesis. Enrollment in Independent Study (G) is limited to students who have been admitted to a master's degree program at Bridgewater State College. The number of credits earned in Independent Study (G) plus those earned in conjunction with a thesis may not total more than 15 for students enrolled in a M.A. program or 10 for students enrolled in an M.Ed. program.

BI 506 Experimental Morphology of Angiosperms G**3 credits**

The growth and development of flowering plants as revealed by experimental modification of their environment, including an investigation of the basic molecular processes involved in genetic control of plant development and their interaction with hormonal mechanisms and environmental influences. Prerequisite: BI 292, BI 393, and BI 397, or permission of the Instructor.

BI 507 Comparative Morphology of the Vascular Plants G**3 credits**

The vascular plants from the psilopsids to the angiosperms using classical and contemporary data for the evaluation of phylogenetic and phenetic relationships. Prerequisite: BI 292, BI 393, BI 397, BI 405, and BI 427, or permission of the Instructor.

BI 508 Taxonomy of Spermatophytes G**3 credits**

A survey of the seed plants: their structure, taxonomy, phylogeny, and ecological importance. Prerequisite: BI 283 and BI 507, or permission of the Instructor.

BI 513, 514 Comparative Animal Behavior I, II G (NSF)**3 credits for each semester**

Animal behavior from the view point of understanding the role of sensory input, biochemical and hormonal influences, and central nervous system involvement in adaptive behavior. Prerequisites: A broad understanding in biology and at least one year each of college chemistry, mathematics, and physics. Only students accepted in the National Science Foundation Institute may enroll in this course.

BI 521, 522 Intertidal Biology G (NSF)**3 credits for each semester**

The conduction of a biological inventory of intertidal habitats, taxonomic identification of intertidal flora and fauna, stressing diversity of organisms and the application of modern systematics to current research in marine science; and environmental analyses, emphasizing the interrelationships of all factors of the marine environment. Prerequisites: A broad foundation in biology and at least one year each of college physics, chemistry, and mathematics, or permission of the Instructor.

BI 523 Neurophysiology I G**3 credits**

The physiology of central and peripheral nervous systems, receptors, and muscles, considered in both vertebrates and invertebrates. Prerequisite: BI 381, CH 131-132, MA 103-104, and PH 181-182, or permission of the Instructor.

BI 524 Neurophysiology II G**3 credits**

The central nervous system of invertebrates and vertebrates. Ultrastructural, physiological, chemical aspects. When appropriate, some behavioral studies will be considered. Prerequisite: BI 101-102, CH 131-132, PH 181-182, and an advanced course in physiology, or permission of the Instructor.

BI 525 Mammalogy G**3 credits**

The classification, distribution, life histories, techniques of collection, and preservation, ecology and ethology of mammals. Prerequisite: BI 101-102, BI 282, or permission of the Instructor.

BI 526 Microbial Physiology G**3 credits**

An advanced study of bacteria and fungi emphasizing their nutrition, growth, death, and chemical activities. Laboratory work will demonstrate some research methods of microbial physiology and illustrate some representative physiological systems. Prerequisite: BI 300, BI 395, and CH 344, or permission of the Instructor.

BI 527 Comparative Ethology G**3 credits**

Behavioral adaptations of animals to their environments and way of life. Introduction to the objective analysis of behavior patterns and use of patterns in clarifying evolutionary relationships. Prerequisite: BI 101-102, BI 282, BI 381, or BI 385, or permission of the Instructor.

BI 530 Entomology G**3 credits**

A study of the biology and control of insects with emphasis on the taxonomy of the orders and major families. Formation of an identified insect collection is required. Prerequisite: BI 101-102, or permission of the Instructor.

DEPARTMENT OF CHEMICAL SCIENCES**Chairman: Professor Chipman****Professor: Daley****Associate Professors: Marganian, Souza****Assistant Professors: Pagano, Sumner****Master of Arts**

The Department of Chemical Sciences offers a program leading to the degree of Master of Arts in Chemistry, which is designed to prepare qualified students for research, further graduate study and teaching. An undergraduate major in chemistry, or its equivalent, is normally required for admission to this program. Applicants must have satisfactorily completed the following courses: one semester of differential calculus, one semester of integral calculus, two semesters of calculus based physics, two semesters of general chemistry with laboratory, one semester of analytical chemistry, two semesters of organic chemistry and two semesters of physical chemistry. Other laboratory courses in chemistry are desirable.

In addition to meeting general degree requirements, the student must complete at least 30 graduate credits in chemistry which shall include at least six semester hours of thesis credit (CH 502).

Each graduate student must satisfactorily complete the following core curriculum or present evidence that it has been successfully completed.

- CH 450 Instrumental Analysis
- CH 597 Advanced Physical Chemistry I
- CH 598 Advanced Physical Chemistry II
- CH 591 Advanced Organic Chemistry I
- CH 592 Advanced Organic Chemistry II
- CH 444 Advanced Inorganic Chemistry

A reading knowledge of German or Russian is required for the degree. All courses must be approved by the adviser. Departmental offerings are listed below.

Master of Education

The Department of Chemical Sciences offers a program leading to the degree of Master of Education in Secondary Education with concentrations in chemistry and in physical sciences. These programs are designed primarily for teachers and future teachers of chemistry.

In addition to meeting general degree requirements, the student must complete the departmental concentration requirement by electing courses appropriate to his degree program.

Course Offerings

The following **undergraduate** courses are prerequisites for certain graduate courses offered by the department. Additional undergraduate prerequisites in other departments may be required. No graduate credits may be earned in these courses.

CH 131, 132 General Chemistry with Qualitative Analysis I-II U

3 credits for each semester

The elements and their compounds, with emphasis on structure and its relation to properties. CH 131 is prerequisite to CH 132. Two lecture periods and one two-hour laboratory period weekly.

CH 141, 142 Inorganic Chemistry with Quantitative Analysis I-II U

4 credits for each semester

Theoretical inorganic chemistry with emphasis on mass-energy relationships in terms of structure and physical laws. Laboratory work emphasizes quantitative techniques. CH 141 is prerequisite to CH 142. Three lecture periods and one four-hour laboratory period weekly.

CH 200 Survey of Chemistry U

3 credits

The fundamental laws of chemistry are studied together with their application to elements and compounds, reactions and properties. Two lecture periods and one two-hour laboratory period weekly.

The following courses may be taken for graduate credit. Certain of these courses may be required as degree and/or course prerequisites, and credit earned in them may not be counted toward meeting the minimum degree requirements of thirty graduate credits. In addition, the department may require degree and/or course prerequisites in other departments. When a course is approved for degree credit by the faculty adviser, credits earned with acceptable grades may be used in partial fulfillment of degree requirements.

CH 241 Inorganic Quantitative Analysis UG **4 credits**

The classical and modern methods for the volumetric and gravimetric determination of elements and groups. Prerequisite: CH 132 or CH 142.

CH 242 Intermediate Inorganic Chemistry UG **3 credits**

The descriptive chemistry, as well as synthesis and reactions, of non-transitional elements and their compounds are studied systematically. Correlations of structure and properties are explained on the basis of modern theories. Prerequisite: CH 132 or CH 142.

CH 250 Instrumentation UG **3 credits**

The physical chemistry basic to modern analytical instrumentation will be discussed as the basis for the study of instrumental analysis. Lecture and laboratory. Prerequisite: CH 132, or permission of the Instructor.

CH 252 Recent Developments in Inorganic Chemistry UG **3 credits**

Current topics, such as ligand field theory of coordination complexes, molecular orbital theory, stereochemistry, crystallography, rare-earth elements, nonaqueous solvents, spectroscopy, and kinetics of inorganic reactions will be treated, according to the interests of the students. Prerequisite: CH 132.

CH 343, 344 Organic Chemistry UG **4 credits each**

A survey will be made of the chemistry of organic compounds from the points of view of synthesis, structure and reactions, including some study of the mechanisms of organic reactions. Prerequisites: CH 132, or CH 142 and permission of the Instructor.

CH 381, 382 Physical Chemistry UG **4 credits each**

The laws governing the physical and chemical behavior of compounds. Prerequisite: CH 132 and MA 210. CH 381 is prerequisite to CH 382.

CH 390 Research Problems in Chemistry UG credit and hours to be arranged

Special projects for advanced students desiring individual instruction in the methods of chemical research. Prerequisite: permission of the department.

CH 440 Advanced Organic Chemistry G**3 credits**

Selected topics in organic chemistry such as physical organic chemistry, mechanisms, alicyclic and heterocyclic chemistry or advanced synthetic methods. Prerequisite: CH 343, 344 and permission of the Instructor.

CH 441, 442 Qualitative Organic Analysis UG 3 credits for each semester

The reactions of organic compounds with emphasis on reactions of importance for classification and identification. Laboratory work involves the identification of both simple compounds and mixtures. Prerequisite: CH 344.

CH 444 Advanced Inorganic Chemistry UG**3 credits**

The topics of group theory, stereochemistry, ligand field theory, molecular orbital theory, synthesis and kinetics of reactions as applied to transition metal elements will be treated in detail. CH 382 may be taken concurrently. Prerequisite: CH 382.

CH 450 Instrumental Analysis UG**3 credits**

Theory and practical application of instrumental methods are applied to chemical analysis. The course will include pH measurements, electrodeposition, potentiometry and spectroscopy. Prerequisite: CH 381 and CH 382. CH 382 may be taken concurrently.

CH 461, 462 General Biochemistry UG**3 credits for each semester**

A survey will be made of the chemical components of living matter and the major processes of cellular metabolism. Prerequisite: CH 344, and permission of the Instructor.

CH 480 Special Topics in Physical Chemistry G**3 credits**

Topics of an advanced nature in physical chemistry will be selected, with an emphasis on recent developments in the field. Possible topics: N.M.R., E.S.R., elementary quantum mechanics, statistical thermodynamics. Prerequisite: CH 382 and permission of the Instructor.

CH 481, 482 Modern Structural Chemistry G**3 credits each semester**

The structural approach, based on the concept of electron pairing in molecular orbitals, will be applied to inorganic and, to a lesser extent, organic chemistry. Topics to be covered will include: electronic structure and chemical bonding, spectroscopy, acid-base chemistry, stereochemistry, equilibrium, elementary thermodynamics, electrochemistry and modern nuclear chemistry.

CH 502 Thesis G**credit to be arranged**

Original research directly related to a thesis. A maximum of 10 credits may be earned in conjunction with an M.A. program. A maximum of 6 credits may be earned in conjunction with an M.Ed. program. Prerequisite: Approval of the adviser and the departmental chairman.

CH 503 Independent Study G**credit to be arranged**

Investigation and/or research not directly related to a thesis. Enrollment in Independent Study (G) is limited to students who have been admitted to a master's degree program at Bridgewater State College. The number of credits earned in Independent Study (G) plus those earned in conjunction with a thesis may not total more than 15 for students enrolled in an M.A. program or 10 for students enrolled in an M.Ed. program.

CH 581 Modern Organic Chemistry G**3 credits**

Organic chemistry from a theoretical viewpoint which excludes most of synthetic organic chemistry from consideration. Topics to be covered will include: the structure and charge distribution of functional groups, structure proof by chemical and physical methods, stereochemistry, inductive effects, resonance, steric effects, and organic reaction mechanisms.

CH 582 Biochemistry G**3 credits**

Chemical components of living matter and of the major processes of cellular metabolism, including the fundamental chemical characteristics of biological compounds and enzymatic reactions.

CH 583 Dynamic Organic Chemistry G**3 credits**

Organic chemistry from a mechanistic viewpoint. Topics to be studied will include: kinetics of organic reactions, determination of the mechanisms of organic reactions, substitution reactions, elimination reactions, concerted reactions, molecular rearrangements, the reactions of carbonium ions, carbanions and free radicals.

CH 584 Survey of Biochemical Reactions G**3 credits**

Biochemical reactions from a mechanistic viewpoint. Emphasis will be placed on the study of the mechanism of reactions that are important in biochemical systems. Topics to be studied will include: the role of inorganic ions in biochemistry, mechanism of enzyme action, oxidative phosphorylation and electron transport, biogenetic schemes, and the transfer of genetic information. A knowledge of organic chemistry (CH 583 or equivalent) is a prerequisite for this course.

CH 585 Atomic and Molecular Structure G**3 credits**

A modern approach to atomic and molecular structure will be developed and applied to selected cases from inorganic and organic chemistry. Topics to be covered will include the following: atomic structure, the molecular orbital approach to molecular structure, antibonding orbitals, introductory ligand field theory, geometrical and optical isomerism, conformational analysis, correlation of structure and reactivity, and the conservation of orbital symmetry.

CH 591 Advanced Organic Chemistry I, Structure G**3 credits**

- Instrumental techniques of organic structure determination such as infrared, ultraviolet and proton magnetic resonance spectroscopy and methods of separation and identification. Classic examples of modern structure proofs will be considered in detail. Students will conduct a literature search on the structure of an organic molecule and present a short seminar on this structure proof. Practical experience with IR, UV, NMR and gas chromatography of the structure of an unknown organic molecule.

CH 592 Advanced Organic Chemistry II, Mechanism and Synthesis G**3 credits**

A one-semester course in advanced organic chemistry designed for participants who have some background in elementary organic chemistry. Topics to be considered will include recent developments in the mechanism of organic reactions and organic synthesis. Special topics may include Valence tautomerism, biogenetic synthesis, photochemistry, cycloaddition reactions and the Woodward-Hoffman rules for the conservation of orbital symmetry.

CH 597 Advanced Physical Chemistry I, Chemical Thermodynamics and Statistical Thermodynamics G**3 credits**

The zeroeth, first and second laws of thermodynamics, entropy and free energy functions, probability and the thermodynamic functions from a statistical consideration, the partition function.

CH 598 Advanced Physical Chemistry II, Atomic and Molecular Structure and Kinetics G**3 credits**

An introduction to quantum chemistry, rotational and vibrational energy levels, first, second and third order reactions, the Arrhenius Equation and energy of activation, consecutive reactions, collision and transition state theories.

DEPARTMENT OF EARTH SCIENCES AND GEOGRAPHY**Chairman: Professor Maier****Professors: I. Furlong, Macewicz****Associate Professors: Boutilier, Fellows****Assistant Professors: Enright, M. Furlong, Blackford, Stewart*****Instructors: Dillman, Drake**

*Assistant Professor of Anthropology and Geography

The Department of Earth Sciences and Geography offers programs leading to the degree of Master of Education in Secondary Education with a concentration in either earth sciences or geography. These programs are designed primarily for teachers and future teachers of earth sciences and geography. They also prepare students for further work in either earth sciences or geography.

In addition to meeting general degree requirements, the student must complete the departmental concentration requirement by electing courses appropriate to his degree program.

The following **undergraduate** courses are prerequisites for certain graduate courses offered by the department. Additional undergraduate prerequisites in other departments may be required. No graduate credits may be earned in these courses.

ES 181 Physical Geology U **3 credits**

The constitution of the earth and the processes acting on and within it. Field trips. May be followed by either ES 182 or ES 192. Two lecture periods and one two-hour laboratory period weekly.

ES 182 Physical Geography U **3 credits**

Selected elements of man's environment such as the atmosphere, climate, soils, and vegetation. Man's role in altering these elements. Field trips. Two lecture periods and one two-hour laboratory period weekly.

ES 200 Fundamentals of Geography U **3 credits**

Man-land relationships and the interaction of man with his total environment, including its landforms, atmosphere, climate, vegetation, and soils. Designed especially for students working for a B.S. degree in Elementary Education. Two lecture periods and one two-hour laboratory period weekly.

ES 261, 262 World Regional Geography U **3 credits for each semester**

Geographical context of current social economic and political problems in Europe, the U.S.S.R., the Orient, the Middle East, the Pacific World, Africa, Latin America, and Anglo-America. Geographical features characteristic of each country and their relationship to a functioning political and economic unit. Either semester may be taken independently.

The following courses may be taken for graduate credit. Certain of these courses may be required as degree and/or course prerequisites, and credit earned in them may not be counted toward meeting the minimum degree requirements of thirty graduate credits. In addition, the department may require degree and/or course prerequisites in other departments. When a course is approved for degree credit by the faculty adviser, credits earned with acceptable grades may be used in partial fulfillment of degree requirements.

ES 107 Management and Preservation of Natural Environment UG **3 credits**

This course is devoted to a detailed examination of the occurrence, exploitation and conservation of natural resources, including minerals, soils, water, forests, grasslands, fisheries, wildlife, recreation areas and scenery. Public and private conservation policy is examined against current technical and philosophical developments. Emphasis is placed on conservation in the United States. Prerequisite: Permission of the Instructor.

ES 192 Historical Geology UG	3 credits
The origin and evolution of the earth and the life upon it. Prerequisite: ES 181.	
ES 252 Geography of Anglo-America UG	3 credits
A description and analysis of the relationships between relevant physical and cultural features of regions in the United States and Canada. Prerequisite: ES 181, ES 182, or ES 200.	
ES 301 Astronomy I UG	3 credits
A study of the earth, moon, planets, sun, and other stars and galaxies. Emphasis is placed on such topics as the new findings of radio astronomy and the uses of earth satellites. Day and evening observations.	
ES 302 Astronomy II UG	3 credits
Stars, galaxies, stellar evolution, instrumentation, and cosmology. Day and evening observations.	
ES 303 Meteorology UG	3 credits
An analysis of weather elements, atmospheric circulation, fronts and the instruments that measure and record these phenomena.	
ES 304 Climatology UG	3 credits
Climatic elements and climatic controls and their application to the analysis of climatic regions of the world. Prerequisite: ES 303.	
ES 305 Oceanography I UG	3 credits
Survey of marine biology and chemistry with emphasis on current research as well as past achievements in each field.	
ES 306 Oceanography II UG	3 credits
Ocean water temperature, circulation, shore lines, ocean basins, and mineral resources.	
ES 315 Cartography UG	3 credits
Graphic presentation of geographic data, and the latest techniques of map construction..	
ES 353 Urban Geography UG	3 credits
Geographic aspects of the city, including location, function, land use patterns, and tributary areas, will be analyzed. Prerequisite: Permission of the Instructor.	
ES 362 Economic Geography UG	3 credits
Simple models and frameworks of the various ways in which man organizes his economic activity. Problems of spatial structure, arrangements and patterns of economic activity.	

ES 363 Field Methods in Economic Geography UG 3 credits

The testing of theories and concepts of economic location in the local area. Prerequisite: ES 362.

ES 372 Mineralogy UG 4 credits

Geometrical and X-ray crystallography followed by the determinative mineralogy of ore and rock-forming minerals. Two lecture periods and two two-hour laboratory periods weekly. Prerequisite: ES 181 and CH 132.

ES 462 Geology of North America UG 3 credits

The physiographic provinces of North America will be studied in terms of their geomorphology and structural relationships. Prerequisite: ES 181.

ES 464 Economic Geology UG 3 credits

Geochemical and physical processes that produce metallic and non-metallic mineral deposits. Prerequisite: ES 181.

ES 475 Paleontology U 3 credits

A survey of the fossil record stressing the most important invertebrate and vertebrate phyla and their environmental relationships. Two lecture periods and one two-hour laboratory period weekly. Prerequisite: ES 181, 192, or consent of the Instructor.

ES 483 Structural Geology UG 3 credits

Analysis and origin of rock structures. Prerequisite: ES 181.

ES 484 Geomorphology UG 3 credits

Relationships between gradational and tectonic forces and the resulting surface configuration of the earth. Prerequisite: ES 181, and ES 182.

ES 502 Thesis G credit to be arranged

Original research directly related to a thesis. A maximum of 6 credits may be earned in conjunction with an M.Ed. program. Prerequisite: Approval of the adviser and the departmental chairman.

ES 503 Independent Study G credit to be arranged

Investigation and/or research not directly related to a thesis. Enrollment in Independent Study (G) is limited to students who have been admitted to a master's degree program at Bridgewater State College. The number of credits earned in Independent Study (G) plus those earned in conjunction with a thesis may not total more than 10 for students enrolled in an M.Ed. program.

ES 504 Geography of USSR G**3 credits**

The geography of environment, resources and population are studied in relation to history and the present economic and social system of the Soviet Union. Prerequisite: ES 200 and ES 252, or ES 181 and ES 182, and permission of the Instructor.

ES 513, 514 Field Methods in Earth Science (NSF) G**3 credits per semester**

The development by participants of inquiry oriented field investigations for use by local school systems. Background lectures in field mapping techniques and regional geology. Open only to NSF participants.

DEPARTMENT OF MATHEMATICS**Chairman: Associate Professor Abramson****Associate Professors: Bent, Chiccarelli, D'Alacao, Harrington, Lemos, Mailloux, Makokian****Assistant Professors: Gleason, Lambiase, Quindley, Scalisi, Simpson****Instructors: Moore, Sutherland**

The Department of Mathematics offers a program leading to the degree of Master of Education in Secondary Education with a concentration in mathematics. This program is designed primarily for teachers and future teachers of mathematics. It also prepares students for further graduate work in mathematics. Admission to the graduate program requires a minimum of eighteen credits of undergraduate mathematics or the approval of the Chairman of the Department. In addition to meeting general degree requirements, the student must complete the departmental concentration requirement by electing courses appropriate to his degree program.

A minimum of 18 graduate credits in mathematics is required for the degree.

The following **undergraduate** courses are prerequisites for certain graduate courses offered by the department. Additional undergraduate prerequisites in other departments may be required. No graduate credits may be earned in these courses.

MA 101, 102 Calculus with Analytic Geometry I-II U**4 credits for each semester**

Inequalities, functions and their graphs, the line and linear inequalities, limits and continuity, differentiation of algebraic functions and applications. The definite integral and applications, analytic geometry of the conic sections, the trigonometric and exponential functions, parametric equations and polar coordinates, calculus of vectors in a plane. Required of all freshman candidates for a degree in Mathematics, Physics, or Chemistry. Open to other qualified freshmen with consent of the Department Chairman.

MA 103, 104 Mathematical Analysis I-II U 3 credits for each semester

Sets, algebraic functions and their graphs, topics from algebra, trigonometric functions and analytic trigonometry, logarithmic and exponential functions, analytic geometry of the line and conic sections, differentiation and integration of algebraic functions and their applications. Required of all freshman candidates for a degree in Biology or Earth Science.

MA 105 College Mathematics I U 3 credits

Set theory, elementary logic, modulo systems, introduction to groups and fields with emphasis on number systems, finite geometry. Required of all freshman non-science majors.

MA 106 College Mathematics II U 3 credits

Linear and quadratic equations, functions and their graphs, trigonometry, analytic geometry of the straight line and conic sections. Mathematics elective for non-science majors. Prerequisite: MA 105.

MA 107, 108 College Mathematics for Elementary Majors I-II U
3 credits for each semester

Theory of sets, relations and their properties, systems of numeration, axiomatic approach to the real number system through a study of the integers and rational numbers, elementary number theory, nonmetric and analytic geometry, groups, linear equations and inequalities, probability.

MA 110 Elementary Statistics U 3 credits

Variance, covariance, linear correlation, general regression lines, introduction to sampling theory; and the following distributions: normal, t, chi-square and F. Required of all freshmen who are candidates for a degree in Health and Physical Education.

The following courses may be taken for graduate credit. Certain of these courses may be required as degree and/or course prerequisites, and credit earned in them may not be counted toward meeting the minimum degree requirements of thirty graduate credits. In addition, the department may require degree and/or course prerequisites in other departments. When a course is approved for degree credit by the faculty adviser, credits earned with acceptable grades may be used in partial fulfillment of degree requirements.

MA 210 Calculus I UG 3 credits

Inequalities, relations, functions, limits and continuity, the differentiation of algebraic functions, with applications to geometry, maxima and minima. Prerequisite: MA 106 or equivalent.

MA 211 Calculus II UG **3 credits**

Continuation of Calculus I. The definite integral, differentiation and integration of the trigonometric and exponential functions, methods of integration, applications. Prerequisite: MA 210 or equivalent.

MA 212 Calculus III UG **3 credits**

A continuation of Calculus II. Methods of integration and applications, partial differentiation, infinite series, multiple integration, applications. Prerequisite: MA 211 or equivalent.

MA 301 Abstract Algebra I UG **3 credits**

Introduction to the theory of rings, integral domains and fields through a study of integers, rational numbers, real numbers, complex numbers and polynomials; elementary group theory.

MA 303 Number Theory UG **3 credits**

Development of the number system, the Euclidean Algorithm and its consequences, theory of congruences, number-theoretic functions, Diophantine equations, quadratic residues.

MA 307 Linear Algebra I UG **3 credits**

Vectors and analytic geometry of space, vector spaces, systems of linear equations, determinants, linear transformations, and matrices.

MA 308 Linear Algebra II UG **3 credits**

Linear transformations and matrices, the algebra of matrices, bilinear and quadratic forms, polynomial rings, characteristic values and vectors of linear transformations, similarity of matrices, applications. Prerequisite: MA 307 or equivalent.

MA 310 Group Theory UG **3 credits**

Groups, subgroups, homomorphisms, normal subgroups and quotient groups, generators, normal structure and the Jordan-Holden theorem, direct products of groups. Prerequisite: Permission of the Instructor.

MA 316 Differential Equations UG **3 credits**

Ordinary differential equations of first and second order, linear differential equations with constant coefficients, the Laplace transform, applications. Prerequisite: MA 212 or equivalent.

MA 317 Sequences and Series UG **3 credits**

Elementary point-set theory, Heine-Borel theorem, Cauchy sequences, convergence tests for infinite series, absolute convergence, power series, Taylor series and Fourier series. Prerequisite: MA 212 or equivalent.

MA 325 Foundations of Geometry UG 3 credits

A study of axiomatic systems, finite geometries, axiomatic Euclidean geometry, various non-Euclidean geometries, Klein's Erlangen program, transformation groups, invariant properties.

MA 326 Projective Geometry UG 3 credits

The principle of duality, perspectivity, projectivity, harmonic sets, cross ratio, transformation groups, projective theory of conics.

MA 349 Foundations of Mathematics UG 3 credits

Elements of set theory and logic, development of the basic number systems, peano postulates, development of the natural numbers, the integers and rational numbers, real numbers, and cauchy sequences.

MA 351 Modern Mathematics for Elementary School Teachers I UG 3 credits

Modern mathematics for teachers of grades 4, 5, 6. A study of base positional notation and arithmetic of different bases, elementary set theory and logic, the real number system and its subsystems.

MA 352 Modern Mathematics for Elementary School Teachers II UG 3 credits

Modern mathematics for teachers who have successfully completed the Level I course or its equivalent. A continuation of the study of the number systems of arithmetic and their applications to algebra and informal geometry. Prerequisite: MA 351.

MA 353 Modern Algebra for Elementary School Teachers UG 3 credits

The integers, integral domains, and topics from number theory; equivalence relations and congruences; real numbers, complex numbers, and fields; polynomials, group theory. Prerequisite: MA 352 or equivalent.

MA 354 Modern Geometry for Elementary School Teachers UG 3 credits

Plane geometric figures, curves and surfaces, congruence, measures, coordinate geometry, parallelism and similarity, non-Euclidean geometries. Prerequisite: MA 352 or equivalent.

MA 401 Advanced Calculus I UG 3 credits

Fundamental theorems on limits and continuity, properties of derivatives, theory of integration. Prerequisite: MA 212 or equivalent.

MA 402 Advanced Calculus II UG 2 credits

Functions of several variables, partial derivatives, multiple integrals, sequences and series. Prerequisite: MA 401 or equivalent.

MA 403 Probability Theory UG 3 credits

Permutations and combinations, calculus of probabilities, discrete and continuous random variables, expectation, elementary probability distributions, methods of estimation, sample spaces. Prerequisite: MA 212 or equivalent.

MA 406 Theory of Sets and Elementary Logic UG 3 credits

Truth tables, rules of inference, method of proof, the algebra of sets, graphs of functions, and cardinal numbers. Prerequisite: MA 211 or permission of the Instructor.

MA 407 Topology UG 3 credits

The elements of point set topology: closed sets and open sets in metric spaces, continuous mappings, connectedness, separation theorems and homotopy, applications. Prerequisite: MA 212 or equivalent.

MA 408 History of Mathematics UG 3 credits

The development of elementary mathematics from ancient to modern times.

MA 412 Mathematical Statistics UG 3 credits

Fundamental statistical methods, tests of significance and estimation based on large or small samples, simple correlation, linear regression, statistical inference, sequential analysis. Prerequisite: MA 403 or equivalent.

MA 415 Numerical Analysis UG 3 credits

Solution of algebraic and transcendental equations: general iteration method, Newton-Raphson method. Approximation of functions and curve-fitting: Lagrange interpolation formula, Newton's forward difference method, method of least squares, orthogonality. Numerical integration, Euler-Cauchy technique. Prerequisite: MA 212 or equivalent.

MA 416 Vector Analysis UG 3 credits

Elementary set theory, vector space theory, inner products spaces, vector algebra, vector differential calculus, differential invariants, integral vector calculus, Stoke's theorem. Prerequisite: MA 212 or equivalent.

MA 418 Complex Function Theory UG 3 credits

Analytic functions of a complex variable, differentiation and integration in the complex plane, Cauchy's theorems, infinite series, Laurent expansions, theory of residues. Prerequisite: MA 401.

MA 422 Probability and Statistics for Elementary School Teachers UG 3 credits

Permutations and combinations, finite sample spaces, random variable, binomial distributions, statistical applications. Prerequisite: MA 352 or equivalent.

MA 425 Calculus for Elementary School Teachers UG 3 credits

Graphs and curves, functions, differentiation and integration of algebraic and transcendental functions, applications. Prerequisite: MA 352.

MA 465 Applied Mathematics UG**3 credits**

The partial differential equations of physics, orthogonal functions, integral transforms. Prerequisite: MA 212 or equivalent.

MA 502 Thesis G**credit to be arranged**

Original research directly related to a thesis. A maximum of 6 credits may be earned in conjunction with an M.Ed. program. Prerequisite: Approval of the adviser and the departmental chairman.

MA 503 Independent Study G**credit to be arranged**

Investigation and/or research not directly related to a thesis. Enrollment in Independent Study (G) is limited to students who have been admitted to a master's degree program at Bridgewater State College. The number of credits earned in Independent Study (G) plus those earned in conjunction with a thesis may not total more than 10 for students enrolled in an M.Ed. program.

MA 546 History of Mathematics (NSF) G**3 credits**

A survey of the development of mathematics from ancient to modern times stressing the solutions of problems and the development of mathematical concepts appropriate to the historical period. Open only to participants in the NSF In-Service Institute.

DEPARTMENT OF PHYSICS**Chairman: Professor Calusdian****Professors: Palubinskas, Weygand****Associate Professors: Blanchard, Harris**

The Department of Physics offers programs leading to the degree of Master of Education in Secondary Education with a concentration in either physics or physical sciences. These programs are designed primarily for teachers and future teachers of physics or physical sciences. They also prepare students for further graduate work in either physics or physical sciences.

In addition to meeting general degree requirements, the student must complete the departmental concentration requirement by electing courses appropriate to his degree program.

The following **undergraduate** courses are prerequisites for certain graduate courses offered by the department. Additional undergraduate prerequisites in other departments may be required. No graduate credits may be earned in these courses.

PH 181 Elements of Physics I U**3 credits**

Principles of mechanics, heat and sound. Two lecture periods and one two-hour laboratory period weekly.

PH 182 Elements of Physics II U**3 credits**

Principles of electricity, magnetism, optics and modern physics. Two lecture periods and one two-hour laboratory weekly. Prerequisite: PH 181.

PH 200 Survey of Physics U**3 credits**

Elements of mechanics, heat, electricity, magnetism, optics and modern physics. Two lecture periods and one two-hour laboratory weekly.

The following courses may be taken for graduate credit. Certain of these courses may be required as degree and/or course prerequisites, and credit earned in them may not be counted toward meeting the minimum degree requirements of thirty graduate credits. In addition, the department may require degree and/or course prerequisites in other departments. When a course is approved for degree credit by the faculty adviser, credits earned with acceptable grades may be used in partial fulfillment of degree requirements.

PH 243 General Physics I UG**4 credits**

Calculus based study of mechanics and heat. Three lecture periods and one three-hour laboratory weekly. Prerequisite: MA 102.

PH 244 General Physics II UG**4 credits**

Calculus based study of electricity, magnetism and light. Three lecture periods and one three-hour laboratory weekly. Prerequisite: PH 243.

PH 371 Biophysics, Macroscopic Aspects UH**3 or 4 credits**

The structure, function, and control of the skeletal, muscular, nervous, blood-vascular and other body systems of the human being on the macroscopic or large-system level. This course may be taken without laboratory work. Prerequisite: Consent of the Instructor.

PH 372 Biophysics, Microscopic Aspects UG**3 credits**

The structure, function, and control of the human body on the microscopic or molecular level. May be taken independently of PH 371. Prerequisite: Consent of the Instructor.

PH 381 Thermal Physics UG**3 credits**

Thermodynamics; kinetic theory; and statistical mechanics. Prerequisite: PH 243, PH 244.

PH 385 Optics UG**4 credits**

Study of geometrical and physical optics. Prerequisite: PH 244.

PH 387 Modern Physics UG**3 credits**

Theory of relativity; atomic structure; quantum theory; nuclear physics and elementary particles. Prerequisite: PH 243, PH 244.

PH 388 Electricity and Magnetism UG	4 credits
Electrostatic and magnetic theory, direct and alternating current circuits, introduction to Maxwell's equations and radiation. Prerequisite: PH 243, 244.	
PH 389 Mechanics UG	3 credits
Vector treatment of forces, torques; dynamics of particles and rigid bodies; work and energy; momentum; small oscillation theory; Lagrangian and Hamiltonian formulation of dynamics. Prerequisite: PH 243.	
PH 390 Research Problems in Physics UG	credits arranged
Special projects for advanced students desiring individual instruction in the methods of physics research. Hours arranged.	
PH 392 Electronics UG	4 credits
Study of electron tubes, semiconductors, and electronic circuits. Prerequisite: PH 244.	
PH 402 Quantum Mechanics UG	3 credits
Wave nature of matter; the schrodinger equation; application of the schrodinger equation to the electron, the hydrogen atom, multi-electron atoms and radiation. Prerequisite: PH 403.	
PH 403 Mathematical Physics UG	3 credits
Vector analysis; matrices; linear differential equations; sturm-lioville theory; Fourier series; orthogonal functions; Laplace transform. Prerequisite: PH 243, PH 244, MA 103.	
PH 405 Nuclear Physics UG	3 credits
Nuclear Forces, Nuclear Models, Nuclear Reactions, Radioactivity, and Elementary Particles. Prerequisite: PH 387.	
PH 502 Thesis G	credit to be arranged
Original research directly related to a thesis. A maximum of 6 credits may be earned in conjunction with an M.Ed. program. Prerequisite: Approval of the adviser and the departmental chairman.	
PH 503 Independent Study G	credit to be arranged
Investigation and/or research not directly related to a thesis. Enrollment in Independent Study (G) is limited to students who have been admitted to a master's degree program at Bridgewater State College. The number of credits earned in Independent Study (G) plus those earned in conjunction with a thesis may not total more than 10 for students enrolled in an M.Ed. program.	

PH 583 Physics of the Atom G**3 credits**

A study of the atomic view of matter and radiation. Topics included are: the kinetic theory of gases, theory of the electron, Bohr's theory of the atom, many electron atoms, theory of molecules and solids, classical theory of radiation, the quantum theory of radiation and spectra, and the theory of relativity.

PH 584 Physics of the Nucleus and Elementary Particles G**3 credits**

A study of the nucleus and the relationship of the elementary particles. The topics included are: nuclear structure, radioactivity, nuclear reactions, nuclear accelerators, conservation laws, symmetry and invariance principles, unified view of the elementary particles, and cosmic rays.

PH 585 Physics of the Solid State (NSF) G**3 credits**

A unified treatment of the basic models used to describe solid state phenomena. Topics included are: crystal structure; electric, magnetic and thermal properties of matter; transport properties of metals and semi-conductors; band theory; super conductivity. This course is open only to participants in the National Science Foundation In-Service Institute.

PH 587 Radiation Physics I G**3 credits**

Wave propagation and the electromagnetic spectrum, interference, diffraction, polarization, coherence theory, electromagnetic theory. This course is open only to participants in the National Science Foundation In-Service Institute.

PH 588 Radiation Physics II G**3 credits**

Blackbody radiation, photo-electric effect, the Bohr Model of the Atom and Atomic Spectra, the Schrodinger equation and applications to radiation problems. This course is open only to participants in the National Science Foundation In-Service Institute.

PH 589 Physics of the Solar System G**3 credits**

Physical properties and motion of the members of the Solar System and interplanetary medium. This course is open to participants in the National Science Foundation In-Service Institute.

PH 590 Astrophysics and Cosmology G**3 credits**

Physical properties of the stars, stellar evolution, galaxies and the structure and history of the universe. This course is open only to participants in the National Science Foundation In-Service Institute.

PH 594 Special Topics in Junior High Science I G (NSF)**6 credits**

An introduction to the Junior High School science programs developed by the Princeton Project and by the Educational Research Council of America. Lectures, laboratory work, model classes, and field trips will be included in this course. This course is open only to participants in the National Science Foundation College-School Cooperative Institute.

A continuation of the course PH 594 in which the Princeton Project and the Educational Research Council's Junior High science programs are studied and evaluated. This course is open only to participants in the National Science Foundation College-School Cooperative Institute. Pre-requisite: PH 594.

DIVISION OF PROFESSIONAL EDUCATION**DIRECTOR: PROFESSOR CLEMENT**

Educational Services		Elementary Education
	Health & Physical Education for Men	
	Health & Physical Education for Women	
Instructional Media	Library Science	Secondary Education

DEPARTMENT OF EDUCATIONAL SERVICES**Chairman: Professor Clement****Professors: Daniel, Deasy, DiNardo****Associate Professors: DeLeo, Dooley, Englund****Assistant Professors: Ash, Fanning, Fitzgibbons, McGuirk, Prescott, Worden, Zuwallack****Instructors: Gaines, M. Jones, Plotner**

The Department of Educational Services offers programs leading to the degrees of Master of Education in the following fields.

Guidance**Reading****School Administration****Special Education — Learning Disabilities**

Courses associated with all of the above degree programs are listed after the descriptions of these programs. Required courses and appropriate electives, which may be approved by the adviser for each degree program, are designated by code letters in parentheses directly below each course title. The key to this code follows.

G — Guidance**SL — Learning Disabilities****R — Reading****A — School Administration****S — Special Education**

Master of Education in Guidance

The Master of Education in Guidance is designed for present and future counselors and guidance directors. Only those who have completed one year of successful full-time teaching at the appropriate level in an accredited school will be considered for admission to this program. Applicants must file the form **Certificate of Teaching**. In addition to meeting general degree requirements, the student must satisfactorily complete:

1. ED 430, ED 530, ED 534, and either ED 443 or ED 450.
2. The departmental concentration requirement.
The latter is met through the election of courses appropriate to the degree program.

Master of Education in Special Education

Master of Education in Special Education – Learning Disabilities

The Master of Education in Special Education is designed for teachers and future teachers of handicapped children and exceptional children. In addition to the separate Master of Education in Learning Disabilities, the student may concentrate in work related to the mentally retarded, physically handicapped or emotionally disturbed.

The Master of Education in Learning Disabilities is designed for experienced teachers, and only those who have completed one year of successful full-time teaching in an accredited school will be considered for admission to this program. Applicants must file the form **Certificate of Teaching**. Students may take a program which emphasizes: specialization within the classroom; special class management; itinerant teaching or tutoring. In both programs the student must satisfactorily complete:

1. ED 410, ED 411, and PY 228.
2. The departmental concentration requirement.
The latter is met through the election of courses appropriate to the degree program.

Master of Education in Reading

This program is designed for present and future curriculum specialists in reading and language, reading consultants, reading supervisors and teachers of remedial reading. In addition to meeting general degree requirements, the student must satisfactorily complete:

1. ED 541, ED 542, ED 543, ED 544.
2. The departmental concentration requirement.
The latter is met through the election of courses appropriate to the degree program.

Master of Education in School Administration

This program is designed to prepare students for the following positions in School Administration:

Superintendent

Curriculum Director, Supervisor, or Director of Instructional Resources

Business Manager

Director of Pupil Personnel Services

Elementary Principal
Secondary Principal
Department Chairman
Director of Student Activities

In addition to meeting general degree requirements, the student must satisfactorily complete a concentration in one of the above areas. It should be understood that those who anticipate preparing for some of these positions, such as superintendent, should plan to do graduate work beyond the master's degree.

Prior to acceptance, all applicants must complete a school administration questionnaire and have an interview with the Educational Services Department. Only those who have completed one year of successful full-time teaching in an accredited school will be considered for admission to this program. Applicants must file the form **Certificate of Teaching**. Applicants who plan to prepare for administrative positions at the elementary school level must have fulfilled the teaching requirement at the elementary school level, and those who plan to prepare for administrative positions at the secondary school level must have fulfilled the teaching requirement at the secondary school level.

The following **undergraduate** course is available for those who need to complete student teaching. Additional undergraduate prerequisites in other departments may be required. No graduate credits may be earned in this course.

Course Offerings

ED 492 Supervised Teaching in the Public School U **6 credits**

Supervised experiences in classroom activities. Experience is gained in: teaching techniques, individual differences, and classroom management. Students are expected to carry a teaching load that averages 50% of the classroom teacher's assignment. Prerequisite: (1) all requirements for Massachusetts State certification other than the teaching, (2) twenty-four credits of approved graduate work, (3) approved by the Graduate Office and the Director of Teacher Preparation and Placement.

The following courses may be taken for graduate credit. Certain of these courses may be required as degree and/or course prerequisites, and credit earned in them may not be counted toward meeting the minimum degree requirements of thirty graduate credits. When a course is approved for degree credit by the faculty adviser, credits earned with acceptable grades may be used in partial fulfillment of degree requirements.

ED 331 Developmental Reading in the Secondary School UG **3 credits**
(SL, R)

The techniques used to develop reading skills in the secondary school, evaluation of the modern reading materials available, a study of techniques used to analyze students' reading needs and a survey of administration of reading programs in the secondary school with implications for teachers as well as administrators. Prerequisite: PY 200.

ED 402 Team Teaching UG	3 credits
Emphasis will be placed on the nature, objectives, and development of the team teaching idea, its organization, team makeup, planning and instruction; student grouping and scheduling; facilities, materials, and equipment; instruction and adaptation to existing conditions; the ungraded school; and team teaching and the community.	
ED 403 Professional Ethics UG	3 credits
Ethical principles upon which the Education Profession is based, those standards which should guide professional service in a moral not legal sense. Emphasis will include: criteria of a profession as applied to teaching; responsibility and privileges of the profession; codes of ethics - nature, formation, interpretation, application, and enforcement; professional organizations - purpose, organization and achievements; relation of the professional role to private life; and interpretation of specific current situations including those suggested by class members.	
ED 404 Fundamentals of Data Processing UG	3 credits
Introduction to the theory and methodology of electronic data processing. Development of the history and classification of computers. Examination of machine and symbolic languages, storage methods, peripheral equipment and numbering systems. Emphasis on the role of the computer in the educational systems of today.	
ED 405 Teaching Basic Driver Education UG	3 credits
Basic knowledge and skills in teaching Driver Education. Emphasis will be placed on human characteristics of the driver, classroom techniques and driving skills. Acceptable for certification.	
ED 410 Introduction to Special Education UG (SL,S)	3 credits
A survey of all phases of special education emphasizing the program for mentally and physically handicapped children, for emotionally disturbed children, and for academically talented. The slow learner and the perceptually handicapped will receive consideration.	
ED 411 Methods and Materials in Special Education UG (S)	3 credits
Special emphasis will be placed on philosophy, general and specific aims, identification and classification, curriculum, development and the planning, developing, and guiding of pupil experiences in the educational program for retarded children. Prerequisite: ED 410.	
ED 412 Organization and Administration of Special Education UG (S)	3 credits
The psychological diagnosis, the personnel, the curriculum, the facilities, the complete pupil services in an effective Special Education program. Prerequisite: ED 410.	

ED 413 Industrial Arts in Special Education UG (S)	3 credits
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The planning procedure, the necessary equipment, and the required techniques needed to implement both craft and industrial arts programs and to improve motor coordinative skills. Prerequisite: ED 410.

ED 414 Domestic Arts in Special Education UG (S)	3 credits
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Procedures for teaching practical domestic knowledge such as home management, cooking, sewing, appearance, home nursing, child care and budgeting. Prerequisite: ED 410.

ED 415 Methods and Materials for the Academically Talented UG (S)	3 credits
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Emphasis on the identification and placement of gifted pupils in our schools and the related program, enrichment activities, creative development, method and materials, modified curriculum, administration, motivation and treatment of underachievement. Prerequisite: PY 200.

ED 416 Teaching the Slow Learner UG (S)	3 credits
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Emphasis is placed upon identification, methods of instruction, proper social and vocational adjustment, and concrete presentation of all academic activity for this type of pupil.

ED 417 Teaching Emotionally Disturbed Children UG (S)	3 credits
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Classroom facilities including carrels, learning experiences, administrative functions, educational materials and the administration of the program will be emphasized. Prerequisite: PY 200 and ED 410.

ED 418 Etiology, Dynamics and Treatment of Emotionally Disturbed Children UG (S)	3 credits
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The causes, characteristics, behavioral aspects and accepted syndromes for identification will be emphasized as well as the psychiatric procedures involved. Prerequisite: PY 200 and ED 410.

ED 419 Workstudy Program in Special Education UG (S)	3 credits
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Workstudy programs for mentally retarded students will be carefully studied for the purpose of the most effective work/vocational placement and follow-up to insure gainful employment. Legal information and labor rights will be presented. Prerequisite: PY 200 and ED 410.

ED 420 Educational Measurement UG	3 credits
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Procedures for developing and evaluating classroom teacher-made tests and a survey of standardized testing practices used in the K-12 program. Prerequisite: PY 200.

ED 426 The Trainable Mentally Retarded UG (S)	3 credits
The complete responsibility of the school, the community and the residential school in regard to identification, training, physical facilities, and instructional techniques will receive consideration. Prerequisite: PY 200 and ED 410.	
ED 427 Guidance in Special Education UG (S)	3 credits
The complete diagnostic process, understanding of case summary, educational guidance throughout the school attendance, and vocational guidance. Prerequisite: PY 200, ED 410.	
ED 428 Rehabilitation and Special Education UG (S)	3 credits
Review of all the procedures and processes of helping the mentally retarded, the physically handicapped, the emotionally disturbed, and the multi-handicapped through the medium of rehabilitation services. Prerequisite: PY 200, ED 410.	
ED 429 Teaching the Physically Handicapped UG (S)	3 credits
A comprehensive treatment of the education, therapy, and guidance of physically handicapped children within the schools with a thorough understanding of their adjustment problems.	
ED 430 Principles and Practices in Guidance UG (G)	3 credits
The philosophy and historical development of the guidance movement; the need for guidance; the nature of guidance services in the schools for today; the personnel, facilities, and procedures involved; and the role of the classroom teacher in guidance.	
ED 462 Science and Social Studies Methods and Materials in Elementary Schools U	3 credits
The goals of scientific inquiry and responsible citizenship. The establishment of objectives and the selection of appropriate methods, materials, and techniques of planning to meet these objectives. Current trends in the teaching of both science and social studies. Innovative ideas found in the newer programs. Prerequisite: PY 200.	
ED 480 Philosophy of Education UG	3 credits
An introduction to thinking critically and imaginatively about education through reading and discussion of primary sources. Emphasis is placed on understanding the philosophical presuppositions which underlie educational practices and policies.	

**ED 500 Research and Evaluation G
(G, SL, R, A, S)**

3 credits

Emphasis on the evaluation of completed research and the carrying out of a research study utilizing the criteria developed during class presentations. Prerequisite: ED 420.

ED 502 Thesis G

credit to be arranged

Original research directly related to a thesis. A maximum of 6 credits may be earned in conjunction with an M.Ed. program. Prerequisite: Approval of the adviser and the departmental chairman.

ED 503 Independent Study G

credit to be arranged

Investigation and/or research not directly related to a thesis. Enrollment in Independent Study (G) is limited to students who have been admitted to a master's degree program at Bridgewater State College. The number of credits earned in Independent Study (G) plus those earned in conjunction with a thesis may not total more than 10 for students enrolled in an M.Ed. program.

ED 505 Historical Foundations of Education G

3 credits

Historical persons, events and movements which have built man's educational establishment from antiquity to current developments in the American school scene.

**ED 513 Seminar in Special Education G
(S)**

3 credits

A careful research to help determine changes in this field so that improved services and techniques might be realized. Prerequisite: At least 24 credits toward the M.Ed. in Special Education.

**ED 515 Teacher Orientation to Learning Disabilities G
(S, SL)**

3 credits

Acquaint in-service teachers with current statistics concerning children with learning disabilities and encourage appreciation of the spectrum of difficulties these children have. Diagnosis and evaluation will be studied in conjunction with the fields of perceptual handicaps, physiology, neurology, and psychology. Prerequisite: PY 200 and ED 330.

**ED 516 Development of Visual and Perceptual Skills in Young Children G
(SL)**

3 credits

Development of vision as part of a sensory-action system with stress on the interaction between the functional and clinical aspects of vision care in the growing child. Considerable time devoted to the recognition of perceptual skills and classroom problems involved in learning and learning difficulties. Prerequisite: ED 515 or consent of the Instructor.

**ED 517 Development of Thought and Language in Young Children G 3 credits
(SL)**

Basic principles of child growth and development. Language development in the whole child will be complemented and supplemented with a concentration on language disorders, testing and remediation. Prerequisite: ED 515.

**ED 518 Workshop in Learning Disabilities G 3 credits
(SL)**

Structuring of materials based on methodology in teaching perceptually handicapped children, and the experiential tutoring with children previously diagnosed by clinics or recommended upon completion of the SPEP forms. Prerequisite: ED 515.

**ED 519 Interpretation of Diagnostic Techniques 3 credits
(SL)**

Methods of differential diagnosis in learning disabilities with emphasis on interpretation of standardized test instruments and the development of profiles of learning style.

**ED 520 Psychological Foundations of Education G 3 credits
(G, SL, R, S)**

A systematic exploration of the various psychological principles related to teaching and application of these principles in specific classroom situations. Special emphasis on social psychology, dynamics in interpersonal relationships and group processes, motivation, and discipline theory. Prerequisite: PY 200 and one of the following: PY 222, PY 224, or PY 226.

**ED 522 Measurement of Intelligence — Binet G 3 credits
(G, SL, R)**

Training for administration, scoring and interpretation of the Binet Intelligence Scale. A test kit is a necessity. Prerequisite: PY 200 and ED 420.

**ED 524 Measurement of Intelligence — WPPSI, Wais & Wisc G 3 credits
(G, SL, R)**

Training for administration, scoring and interpretation of the Wechsler Intelligence Scales. Test kits are necessary. Prerequisite: PY 200 and ED 420.

**ED 530 Counseling Theory and Practice G 3 credits
(G)**

Emphasis will be placed on the principles of counseling and the application of the basic techniques to the counseling process. The roles of both guidance personnel and teachers will be stressed. Case studies will be used and situational problems discussed. Prerequisite: ED 430.

ED 531 Organization and Administration of Guidance Programs G 3 credits
(G)

Procedures for creating and operating a program of guidance services in the public school including basic principles and practices and how guidance services and activities can be adapted, organized, and administered. The course will give special attention to immediate NDEA Act applications. Prerequisite: ED 430.

ED 532 Practicum in Counseling G 3 credits
(G)

Emphasis will be on the practice of counseling. Multiple counseling sessions using tapes will be emphasized. Supervised observation will be included to help measure individual assessment of growth and competence. Prerequisite: ED 530.

ED 533 Psychological Tests in Guidance G 3 credits
(G)

Introduction of the school counselor to the basic principles of psychological testing and the most commonly used instruments for assessing intelligence achievement, aptitude, interest and personality. Prerequisite: ED 420 and ED 430.

ED 534 Occupational and Educational Information G 3 credits
(G)

Use of educational and occupational information in counseling and classroom situations. Information will be considered and collected. Prerequisite: ED 430.

ED 535 Principles and Practices in Placement G 3 credits
(G)

Emphasis will be placed on two areas:

1. A review of career development theory.
2. Internal and external placement programs and techniques. Prerequisite: ED 430.

ED 540 Improving Reading Instruction G 3 credits
(SL, R)

A consideration of how the teaching of reading can be improved through a thorough analysis of pupils' instructional needs, differentiated instruction in all essential skills, and a planned program to encourage voluntary reading. Current approaches and reading materials will be examined. The implications of differences among pupils in language and perceptual development, cognitive development and learning rate, and attitudes and values will be discussed. Prerequisite: PY 200.

ED 541 Diagnosis and Correction of Reading Difficulties I UG (SL, R)	3 credits
Designed to prepare both elementary and secondary remedial reading teachers. Part I of this course will emphasize the identification of specific instructional needs, development of remedial plans, and provision of highly motivated instruction to overcome indicated weaknesses. Prerequisite: ED 330 or ED 540, and permission of the Instructor.	
ED 542 Diagnosis and Correction of Reading Difficulties II G (SL, R)	3 credits
In Part II, attention will be focused on formal diagnostic procedures, theories of causation, and problems encountered in organizing and administering remedial programs. Prerequisite: ED 541.	
ED 543 Effective Reading Programs G (SL, R)	3 credits
Current and evolving practices and programs in the teaching of reading. Teachers, reading specialists and administrators will be helped to develop practical plans for insuring that their own reading programs successfully meet the needs of all their students. Prerequisite: ED 330 or ED 540 or permission of the Instructor.	
ED 544 Seminar in Reading and Language G (SL, R)	3 credits
Application of research methods and findings to the improvement of all aspects of reading and language instruction. Each student will make an extensive study of a significant problem related to the teaching of oral expression, written expression, reading, spelling or handwriting. Prerequisite: ED 330 or ED 540 or permission of the Instructor.	
ED 545 Clinical Practicum in Remedial Reading G (SL, R)	3 or 6 credits
A limited number of qualified students will be given opportunity for practice work in intensive remedial instruction. Prerequisite: permission of the Instructor. Applications for this practicum should be made in advance.	
ED 550 Supervised Teaching of the Perceptually Handicapped G (SL, S)	3 credits
Supervised teaching (or tutoring) in a program for perceptually handicapped children. Prerequisite: ED 545.	

ED 560 The American Public School Today G
(G, SL, R, A, S)

3 credits

(Replaces Principles and Practices of School Administration) A survey of the principles of school organization and administration: program, pupil services, personnel, plant and equipment, and public relations. Emphasis on common practice, issues and trends. Experience in staff participation through the use of the administrative process in class work and projects both individual and group. A core course for all M.Ed. programs and a prerequisite for courses in school administration.

ED 561 Elementary School Administration G
(A)

3 credits

The application of the general principles of school administration to the specific problems of the elementary school. Emphasis on the areas of elementary program, plant, services, pupil control and accounting, personnel and public relations. Prerequisite: ED 560.

ED 562 Secondary School Administration G
(A)

3 credits

The application of the general principles of school administration to the specific problems of the secondary school. Emphasis on the areas of secondary program, pupil administration, plant and facilities, personnel and public relations. Prerequisite: ED 560.

ED 563 Personnel Administration in Public Schools G
(A)

3 credits

The nature, development, and importance of personnel administration and the general principles, preparation and procedures for its implementation. Special topics will include selection, orientation, assignment, supervision, rating and the establishment of the type of morale essential for the most effective teaching-learning atmosphere. Prerequisite: ED 560.

ED 564 Public School Supervision G
(A)

3 credits

The philosophy and function of supervision and the roles of the various staff members responsible for supervision in a modern public school. Prerequisite: ED 560.

ED 565 School Finance and Business Administration G
(A)

3 credits

The financial support for public schools from local, state, and federal governments. School budgets, accounting, and purchasing procedures, distribution of supplies and services, transportation, food service, management and maintenance of the school plant. Prerequisite: ED 560.

ED 566 School Plant Planning and Administration G**3 credits****(A)**

For the specialist in school administration who may ultimately go on to school district administration as an assistant superintendent, business manager, director of buildings and grounds or superintendent. In depth coordination of the many factors involved in planning, construction, maintaining and administering the modern school plant. Prerequisite: ED 560.

ED 567 Administration of the School Activity Program G**3 credits****(A)**

The nature and function of student activities, the management of the activity program (with an administrative emphasis) and an analysis of the types of student activities.

ED 568 Seminar in Problems of School Administration G**3 credits****(A)**

Study and analysis of current problems and issues in elementary and secondary school administration. Student solutions to these problems will be presented to the class as a whole. Prerequisite: Twenty-four (24) credit hours must be completed toward the Master's Degree in School Administration including five other Administration courses. Consent of major adviser is also necessary.

ED 569 Legal Aspects of School Administration G**3 credits****(A)**

Legal rights, duties and liabilities of school personnel in general relationship to the school committee in Massachusetts. Intended for administrators, prospective administrators, and classroom teachers interested in the legal aspects of school committees, school property, teaching contracts, tenure, prevention of injury and accidents to students, relationships with parents, and a general survey of educational law cases at the local, state, and national level.

ED 570 Federal Assistance to American Education G**3 credits****(A)**

The goals, content, federal priorities, and evaluation of federal-aid-to-education programs will be studied with particular emphasis on implications to schoolmen. Various titles of the Elementary and Secondary Education Act of 1965 and its subsequent revisions and amendments.

ED 571 Introduction to Theory and Understanding of Group Interaction G**3 credits****(A)**

Directed to teachers and administrators who wish to be more effective in working with groups. Consideration will be given to the group process and staff development with emphasis on the human relations aspects of interpersonal relationships. Group activities will be based upon improving understanding and utilization of skills in such areas as communication, cooperation, problem-solving, conflict management and decision making.

ED 573 Innovative Administration Practices in Modern Education G 3 credits
(A)

A study in depth of six or more topics that have current impact on school organization and administration. The innovations studies, selected in part by the class itself, would vary from year to year, and might include such areas as Differentiated Staffing, Rescheduled School Year, PPBS and Accountability, Computer-assisted Instruction, Negotiations, Open Campus or Open Education. Reading, research group work, problem solving, student-led class presentations.

ED 580 Philosophical Foundations of Education G 3 credits

A critical and intensive analysis of selected concepts and beliefs which function as the basis of recent philosophies of education and their relation to current educational practices and policies. Readings from recent philosophers of education. Prerequisite: ED 480.

ED 590 Social Foundations of Education G 3 credits

A critical examination of the effects of various social institutions, groups, and situations on educational policy and content. Prerequisite: SO 202.

DEPARTMENT OF ELEMENTARY EDUCATION

Chairman: Associate Professor Dickinson

Associate Professors: Gamson, Nadal, Sprague, Wood

Assistant Professors: Bizinkauskas, Marion Doyle, Mary Doyle, Kent, King, Menice, Philips, Thurnell

Instructors: Wallace

Master of Education in Elementary Education

The Department of Elementary Education offers a program leading to the degree of Master of Education in Elementary Education. This program is designed for teachers and future teachers of grades one through six. It is flexible enough to meet the needs of those with a background in the liberal arts as well as those who have an undergraduate major in elementary education.

In addition to meeting general degree requirements, the student must satisfactorily complete ED 450 and ED 554 as well as the departmental concentration requirement. The latter is met through the election of courses appropriate to the degree program.

Master of Education in Elementary School Mathematics

The Department in conjunction with the Department of Mathematics offers a program leading to the degree of Master of Education in Elementary School Mathematics. This program is designed for teachers and future teachers of elementary mathematics. In addition to meeting general degree requirements, the student must satisfactorily complete: ED 350, ED 351, ED 550, MA 353 and MA 354 as well as the departmental concentration requirement. The

latter is met through electing education and/or mathematics courses appropriate to the degree program.

Course Offerings

The following courses may be taken for graduate credit. Certain of these courses may be required as degree and/or course prerequisites, and credit earned in them may not be counted toward meeting the minimum degree requirements of thirty graduate credits. In addition, the department may require degree and/or course prerequisites in other departments. When a course is approved for degree credit by the faculty adviser, credits earned with acceptable grades may be used in partial fulfillment of degree requirements.

ED 330 Teaching of Reading in the Elementary School UG 3 credits

A consideration of how reading instruction is initiated, how basic reading abilities are developed, and how growth in voluntary reading is encouraged. The essentials of an effective developmental reading program will be examined with attention to organizing reading groups and evaluating progress. Prerequisite: PY 200.

ED 340 Methods and Materials in Elementary Language Arts UG 3 credits

Stress on the new language-focused approach to English and the modern concepts of English grammar and usage. Creative strategies and ideas in teaching the skills and abilities of listening, speaking, and writing. Prerequisite: PY 200.

ED 350 Methods and Materials in Elementary Mathematics UG 3 credits

Acquaintance with the purpose and content of the contemporary elementary school mathematics curriculum. A wide variety of effective teaching procedures and instructional materials designed to meet the varying abilities within the elementary school classroom. Prerequisite: PY 200 and MA 107.

ED 351 Improving Mathematical Instruction in the Elementary School UG 3 credits

Appraisal of current mathematics programs, evaluation of individual pupils with a class, consideration of current instructional procedures and materials designed to provide for individual differences. Prerequisite: ED 350.

ED 360 Methods and Materials in Elementary Music UG 3 credits

The music program in the elementary grades including objectives, curriculum, personnel, pupil characteristics, meeting of individual differences, rhythmic activities, music reading and listening, creative teaching and general procedures, equipment and materials.

ED 362 Methods and Materials in Elementary Art UG **3 credits**

The objectives of art education, role of the classroom teacher, developmental stages in the creative growth of children; materials, processes, tools and teaching procedures which will foster this growth at the various grade levels; correlation of art with other subject fields; and evaluation of student progress.

ED 370 Kindergarten Theory and Methods UG **3 credits**

The Philosophy of modern kindergarten education including exploration of emerging theories and new approaches. Developmental characteristics and learning styles of the young child are studied and related to initial school experiences designed to foster maximum growth. Curriculum methods and materials are examined and evaluated. Opportunities will be provided to observe the kindergarten child in the classroom. Prerequisite: PY 200.

ED 450 Elementary School Curriculum UG **3 credits**

Roles of the administrator, the teacher, the parent and the child in the development of the changing curriculum in the elementary school. Use of action research, in-service training, innovations for curriculum improvement, school organizations, team teaching, the non-graded school, individualized instruction, the revaluation of objectives, and democratic values.

ED 452 Methods and Materials in Elementary Education UG **3 credits**

Effective ways of vitalizing the teaching-learning process through teacher-pupil planning, participation and evaluation. Emphasis on creative teaching and the individualized approach. Resource persons, lectures, reports, discussions and displays of materials will be used. Prerequisite: PY 200.

ED 460 Methods and Materials in Elementary Science UG **3 credits**

Goals of elementary school science instruction and the methods of attaining them through "newer" science programs, problem-solving, experimentation, and varied instructional media are examined. Prerequisite: PY 200.

ED 470 Methods and Materials in Elementary Social Studies UG **3 credits**

Emphasis is placed on current trends including objectives, curriculum, creative pupil-teacher planning, teaching techniques involving extensive use of instructional media and study tours of New England. Prerequisite: PY 200.

ED 474 Methods and Materials in Primary Education UG **3 credits**

Emphasis on insight into ways of teaching Primary-Grade children, taking into consideration the basic philosophy of their education and promoting an understanding that each child is a unique individual. Stress on effective organization and management, what to teach, how to teach, the importance of skill development, the necessity for drill, and the use of practical creative techniques. Prerequisite: PY 200.

ED 502 Thesis G**credit to be arranged**

Original research directly related to a thesis. A maximum of 6 credits may be earned in conjunction with an M.Ed. program. Prerequisite: Approval of the adviser and the departmental chairman.

ED 503 Independent Study G**credit to be arranged**

Investigation and/or research not directly related to a thesis. Enrollment in Independent Study (G) is limited to students who have been admitted to a master's degree program at Bridgewater State College. The number of credits earned in Independent Study (G) plus those earned in conjunction with a thesis may not total more than 10 for students enrolled in an M.Ed. program.

ED 550 Practicum in the Elementary School Mathematics Program G**3-6 credits**

Students accepted will pursue an individualized program of advanced study and research, focused on a substantive topic pertaining to the elementary school mathematics program, and eventuating in an acceptable documented report. Periodic meetings will be scheduled by the Instructor. Each student's program must be approved by the Instructor and the department chairman. Prerequisite: completion of, or enrollment in, all other required courses in the degree program.

ED 551 Discovering Science – A Survey of Current Elementary School Science Programs G**3 credits**

The inductive programs for elementary science: Elementary Science Study, Minnesota Mathematics and Science Teaching Project, Science-A Process Approach, and the Science Curriculum Improvement Study. Their philosophy, psychology, materials, and methods of implementation. Prerequisite: ED 460, ED 462 or permission of the Instructor.

ED 554 Seminar in Elementary Education G**3 credits**

An integration of formal study, current research and personal experience. Each student will make an extensive study of a significant problem in elementary teaching. Prerequisite: 24 approved G credits with a minimum of 12 credits in elementary education.

DEPARTMENT OF HEALTH AND PHYSICAL EDUCATION FOR MEN

Chairman: Professor Lehmann

Associate Professors: Knudson, Swenson

Assistant Professor: Mazzaferro

Instructors: Braun, Deep, Yeskewicz

DEPARTMENT OF HEALTH AND PHYSICAL EDUCATION FOR WOMEN

Chairman: Professor Comeau

Associate Professors: Phillips, Thornburg

Assistant Professors: Coakley, Gross, Hogg, Kransinski, Smith, Tufts

Instructors: Ekas, Hurst, Rugen, Schopp, Wolfgram, Yeamans

The Departments of Health and Physical Education jointly offer a program leading to the degree of Master of Education in Health Education. This program is designed for present and future nurses, public health personnel, social workers and teachers. The following are departmental undergraduate course prerequisites which may be fulfilled after admission: HE 151, ED 480, PY 200, PY 224 or PY 226 and three additional credits in health education. Credits earned in these courses may not be counted toward the thirty graduate credits required for the degree.

In addition to meeting general degree requirements, the student must satisfactorily complete: a thesis, HE 465, HE 495 and HE 590, as well as the departmental concentration requirement. The latter is met through the election of courses appropriate to the degree program.

The following courses may be taken for graduate credit. Certain of these may be required as degree and/or course prerequisites, and credit earned in them may not be counted toward meeting the minimum degree requirements of thirty graduate credits. In addition, the department may require degree and/or course prerequisites in other departments. When a course is approved for degree credit by the faculty adviser, credits earned with acceptable grades may be used in partial fulfillment of degree requirements.

HE 385 Nutrition Education UG

3 credits

Nutrition, and the relation of nutrition to cultural patterns, dental health, and total health and fitness. The New England Dairy and Food Council will assist in planning the course outline, will provide approved films, and suggest speakers.

HE 455 First Aid UG

3 credits

Lecture, discussion, and practice of first aid skills, leading to the completion of the Red Cross Standard, Advanced and Instructor First Aid Certificates. The objectives will be to encourage good safety practices and attitudes; to prepare the individual to give first aid care to himself, his family and others.

HE 465 School Health Program G**3 credits**

(This course is designed) To acquaint the elementary classroom teacher with the areas of the school health program: health services, health education and healthful school living. Emphasis will be placed on the objectives and goals of health education within and throughout the total school curriculum, organization of the school health services and basic issues and problems in school health.

HE 475 Community Health Education UG**3 credits**

The history and development of public health programs, the relationships of health departments — local, state, and federal — public and private agencies, and the school health program. Problems and principles of the community health programs based on local needs. Designed for classroom teachers, health specialists, and others interested in community health. Prerequisite: a course in personal health education.

HE 485 Methods in Health Education UG**3 credits**

Advanced course for health specialists, elementary school classroom teachers and physical educators. Emphasis will be placed upon selection of health content and the latest and most effective methods and techniques in teaching health.

HE 495 Health Problems G**3 credits**

Current health problems related to the school and community will be presented. Topics will be based on needs and interests of class participants. The school's responsibility for education in these areas will be discussed.

HE 499 Sex and Family Living Education UG**3 credits**

Emphasis will be on objectives, curriculum content, methods and techniques of teaching in this area. The role of the school and community regarding education for family living will be discussed. A view of the entire educational curricula and its aims will be studied as it relates to education for family living.

PE 349 Methods of Teaching and Calling the Modern Square Dance UG**3 credits**

Make-up and place of modern square dance in the physical education curriculum. Basics included in the modern square dance will be presented in progression. The techniques of teaching will be emphasized as students are taught to perform these fundamentals. The method of learning to call individual basics will be stressed and emphasis placed on the mechanics and function of each.

PE 360 Organization of Girls' Intramural and Extramural Activities UG**3 credits**

The construction of a balanced program of cocurricular activities based upon sound educational objectives implemented with the current standards and guidelines established for the junior and senior high school girl.

**PE 370 (Theory and Practice of) Physical Education in the Elementary School
UG** **3 credits**

Physical Education Activities and skills throughout the Elementary Grades. Emphasis will be on preparation and teaching techniques for the classroom teacher, specialist and supervisor. A laboratory experience will be a required part of the course.

PE 380 Introduction to Recreation UG **3 credits**

The history of recreation from colonial days to the present. Particular emphasis is placed on the cultural views and their relationship to recreation. The various types of recreation presently seen and the impact of leisure time on the future will also be discussed.

PE 382 Programs in Recreation UG **3 credits**

The fundamental aspects of program planning in recreation. The programs of various agencies, both public and private, will be discussed. Items given special attention are: Senior Citizens Programs, Physically and Mentally Retarded Programs and Pre-primary Programs.

PE 387 Sociology of Sport UG **3 credits**

Examination and analysis of the types of forces at work in American society and how they relate to sports. Among the topics to be included are the influences of our cultural heritage, philosophy of education, politics, religion, economy, ethnics, mass media, and internationalism. (Lectures, readings, class discussions, and written assignments will be directed toward enhancing the individual's understanding of the values of sport in our society yesterday, today, and tomorrow.)

PE 395 Measurement and Evaluation in Physical Education UG **3 credits**

The construction and use of written tests, skill tests, and other measurement devices in physical education; methods of administration and use of data.

PE 424 Problems in Physical Education and Athletics UG **3 credits**

The recognition, discussion and systematic analysis of controversial issues and problems. Topics studied are: Optimum use of facilities, ethical practices, finance relationships with non-school programs, interscholastic athletic competition below high school level, youth fitness, crowd control, injury prevention, program evaluation, and community organization for health, physical education and recreation.

PE 425 Care and Prevention of Athletic Injuries UG **3 credits**

Methods of prevention, correction, care and treatment of athletic injuries. Training and conditioning programs will be studied. Class time will be devoted to lectures, discussions, and practical work. Taping and use of physical therapy equipment will be covered in the course.

PE 426 Organization and Administration of School Athletics UG 3 credits

Athletic policies and regulations on the local and state levels, administrative plans, contest management, the purchase and care of equipment, athletic awards, finance and budget, athletic facilities, scheduling, public relations, the intramural program, and trends in interscholastic athletics.

PE 427 Public Relations in Physical Education UG 3 credits

The study of a public relations philosophy, and specific and practical techniques. Planning and preparation of annual reports, speeches, brochures, displays, demonstrations and press releases. Course projects are planned to help upgrade the public relations programs in the departments and schools represented.

PE 434 Foundations of Physical Education UG 3 credits

Scientific Foundations of physical education; the objectives and how they are best achieved; the philosophy of physical education as a part of total education; the relationship of physical education to health, recreation, camping and outdoor education.

PE 435 Current Trends in Dance and Sport UG 3 credits

Advanced techniques and methods of teaching selected sports, gymnastics and dance. Strategy in game play and competitive gymnastics will be included. Both theoretical and practical experiences provided.

PE 440 Current Issues in Physical Education UG 3 credits

(Study of) Trends and forces in education as they effect physical education: expansion of knowledge, philosophy, purposes, content, relevance, etc., and the implications for curriculum, higher education, and research in physical education.

PE 480 Physical Education for Exceptional Children UG 3 credits

Adaptation of physical education activities to meet the varying needs of exceptional children. Nearby schools and institutions provide opportunities for practical experience.

PE 490 Philosophy and Principles of Physical Education G 3 credits

Discussion of facts and principles that serve to formulate a philosophy of physical education. Study of the relationship of physical education to general education.

HE 502 Thesis G credit to be arranged

Original research directly related to a thesis. A maximum of 6 credits may be earned in conjunction with an M.Ed. program. Prerequisite: Approval of the adviser and the departmental chairman.

HE 503 Independent Study G**credit to be arranged**

Investigation and/or research not directly related to a thesis. Enrollment in Independent Study (G) is limited to students who have been admitted to a master's degree program at Bridgewater State College. The number of credits earned in Independent Study (G) plus those earned in conjunction with a thesis may not total more than 10 for students enrolled in an M.Ed. program.

DEPARTMENT OF INSTRUCTIONAL MEDIA**Chairman: Professor Rosen****Assistant Professor: Lee****Instructor: Ward**

The Department of Instructional Media offers a program leading to the degree of Master of Education in Instructional Media. This program is designed for present and future media specialists.

The following is a departmental undergraduate course prerequisite which may be fulfilled after admission: ED 443 or ED 450. Credits earned in this course may not be counted toward the thirty graduate credits required for the degree.

In addition to meeting general degree requirements, the student must satisfactorily complete: IM 310, IM 452, IM 453, IM 456, IM 460 and IM 464, as well as the departmental concentration requirement. The latter is met through the election of a course appropriate to the degree program.

The following **undergraduate** course is a prerequisite for certain graduate courses offered by the department. Additional undergraduate prerequisites in other departments may be required. No graduate credits may be earned in these courses.

IM 311 Audiovisual Methods and Materials for Special Education U 3 credits

Same as IM 310 with guided research applicable to all areas of Special Education.

The following courses may be taken for graduate credit. Certain of these courses may be required as degree and/or course prerequisites, and credit earned in them may not be counted toward meeting the minimum degree requirements of thirty graduate credits. In addition, the department may require degree and/or course prerequisites in other departments. When a course is approved for degree credit by the faculty adviser, credits earned with acceptable grades may be used in partial fulfillment of degree requirements.

IM 310 Audiovisual Methods and Materials UG **2 credits**

Introduction to instructional media and technology. Instruction in and application of still pictures, slides, filmstrips, recordings, radio, television, three-dimensional materials, field trips, flannel boards, chalk boards, and specialized teaching machines. Sources of teaching aids and supplementary materials accompanies laboratory procedures. Three periods weekly.

IM 420 Advanced Audiovisual Techniques UG **3 credits**

Directed study course. Development of a course of study in the student's field of concentration coordinated with instructional media and technology.

IM 424 Seminar in Instructional Media UG **credits to be arranged**

Systematic review of literature and research, techniques, and technology in instructional media. Reports for group discussion and analysis. Prerequisite: IM 420, IM 452, and IM 460.

IM 452 Science of Photography in Education UG **3 credits**

Basic philosophy, educational planning, and the techniques of preparation of photographic instructional materials. Preparation of color and black and white slides, stills, filmstrips, transparencies for overhead projection. Emphasis upon photography and darkroom techniques. Prerequisite: IM 310, IM 311, or permission of the Instructor.

IM 453 School Public Relations UG **3 credits**

The necessity for a well-informed public to foster good school public relations. All necessary media will be discussed; radio, television, newspapers, magazines, school publications, teacher-parent and administrator-teacher-parent relationships.

IM 454 Script Writing Techniques for Radio and Television UG **3 credits**

This course is designed to give the student skills in writing for Radio and TV. Developing a sense of the dramatic and the understanding of the science of human psychology will also be studied. Prerequisite: IM 310, IM 452, and IM 456.

IM 456 Radio and TV Studio Operation and Control UG **3 credits**

The student will learn all of the technical data necessary to direct TV programs and to operate a radio station. The student will be prepared to take the examination for 1st, 2nd, or 3rd class license. Prerequisite: IM 450, IM 452, and IM 460.

IM 457 Advanced Photography Techniques UG **3 credits**

Advanced theory of photography and the preparation of projected photographic materials; slides, stills, filmstrips, motion pictures, and overhead transparencies. Advanced techniques of darkroom usage and salon printing. Prerequisite: IM 452.

IM 458 Radio and TV Production UG**3 credits**

Designed to make the student proficient in the production of radio and TV programming, with stress upon being able to make, obtain, and set up necessary props, backgrounds, trick camera shots and sound effects. Prerequisite: IM 310, IM 452, IM 453, IM 456, and IM 460.

IM 460 Graphic Arts in Instructional Media UG**3 credits**

Instruction in graphic arts pertaining to new technology in education. Mechanical and hand lettering and lay-out. Preparation of materials by color-lift, thermofax, and tecnfax techniques. Basics for photocopying including 2" x 2" slides. Prerequisite: IM 452 or consent of Instructor.

IM 464 Management of an Instructional Media Department UG**3 credits**

All phases of operating an Instructional Media Department: budgeting, purchasing, staffing, services, analysis of materials and equipment. Prerequisite: IM 310, IM 452, IM 453, IM 456, and IM 460.

IM 466 Cinematography I UG**3 credits**

Basic production of 8mm, super 8 and 16mm motion picture films. Basic techniques involved in the production of motion picture films used in education. Prerequisite: IM 452.

IM 468 Advanced Cinematography UG**3-6 credits**

Advanced techniques of film production in all of its technical phases, including production, design, editing and sound synchronization for motion pictures in education. Prerequisite: IM 452, IM 466.

IM 502 Thesis G**credit to be arranged**

Original research directly related to a thesis. A maximum of 6 credits may be earned in conjunction with an M.Ed. program. Prerequisite: Approval of the adviser and the departmental chairman.

IM 503 Independent Study G**credit to be arranged**

Investigation and/or research not directly related to a thesis. Enrollment in Independent Study (G) is limited to students who have been admitted to a master's degree program at Bridgewater State College. The number of credits earned in Independent Study (G) plus those earned in conjunction with a thesis may not total more than 10 for students enrolled in an M.Ed. program.

DEPARTMENT OF LIBRARY SCIENCE

Chairman: Associate Professor Bouchard
Associate Professor: Vining
Assistant Professor: Oakley
Instructors: Lee, Neubauer

The Department of Library Science offers a program leading to the degree of Master of Education in School Librarianship. This program is designed primarily for school librarians.

In addition to meeting general degree requirements, the student must satisfactorily complete: LI 310 or LI 320 (both are recommended and at least one must be taken to meet the Massachusetts School Librarian Certification requirements) and LI 595. The student must complete the departmental concentration requirement by electing courses appropriate to his degree program.

The following courses may be taken for graduate credit. Certain of these courses may be required as degree and/or course prerequisites, and credit earned in them may not be counted toward meeting the minimum degree requirements of thirty graduate credits. In addition, the department may require degree and/or course prerequisites in other departments. When a course is approved for degree credit by the faculty adviser, credits earned with acceptable grades may be used in partial fulfillment of degree requirements.

LI 310 Children's Literature UG

3 credits

Reading interests of children from pre-school years through the elementary grades with emphasis on the contribution that reading can make toward the process of growing up; criteria for evaluation and analysis of children's books; types of books available today, considered in terms of the needs, interests, and abilities of children. Topics covered are history of literature for children; illustrators; folk-tales; myths; modern fanciful tales; fiction; poetry; books in special fields, such as history, science, travel.

LI 320 Literature for Young Adults UG

3 credits

Survey of literature for the adolescent, designed for junior and senior high school teachers and librarians, including a brief history of the development of this literature, evaluation of publishers, and psychology of the adolescent reader.

LI 370 Reference Materials and Their Use UG

3 credits

Outlines appropriate procedures in various disciplines. Search exercises give practical application of techniques using all the resources of the library.

LI 430 School Library Administration UG **3 credits**

Principles and practices in school library administration and service; the role of the library in the school's educational program; pupil instruction in library use; the planning and equipping of the library; and other aspects of library organization.

LI 440 Cataloguing and Classification UG **3 credits**

Emphasis is on the Dewey Decimal classification and Sears Subject headings. Some time is given to the general processing of books.

LI 446 Technical Services UG **3 credits**

An overview of the acquisition, cataloguing, circulation, and maintenance of the instructional materials in the library.

LI 450 An Introduction to the Library (The School Library, a Survey) UG **3 credits**

Introduces teachers, administrators, and beginning librarians to the role of the library in education and the expanded services needed to meet the new methods of teaching.

LI 451 Storytelling UG **3 credits**

Examination of the literary sources, experience in selection and presentation of stories, and techniques in cultivating appreciation of literature in children from kindergarten through grade 8.

LI 452 Selection of Library Materials (Media Selection) UG **3 credits**

Criteria and policies in selection for reader interest and curriculum enrichment, with emphasis on practical applications and appraisal of bibliographic aids and current review practices.

LI 455 Literature of Science and Technology UG **3 credits**

A continuation of LI 370. Background, trends, and bibliographic control of the natural and physical sciences, pure and applied, including principles of information storage and retrieval.

LI 456 Literature of the Humanities UG **3 credits**

A continuation of LI 370. Background, trends, and bibliographic control in literature, the arts, philosophy, and religion.

LI 457 Literature of the Social Sciences UG **3 credits**

A continuation of LI 370. Background, trends, and bibliographic control in history, political science, education, and the behavioral sciences, including organizations, periodicals, and government publications.

LI 464 Use and Organization of Non-print Materials UG **3 credits**

Survey of the standards and innovations in school media programs and exposure and proficiency in the use and organization of non-print materials currently used in libraries.

LI 502 Thesis G**credit to be arranged**

Original research directly related to a thesis. A maximum of 6 credits may be earned in conjunction with an M.Ed. program. Prerequisite: Approval of the adviser and the departmental chairman.

LI 503 Independent Study G**credit to be arranged**

Investigation and/or research not directly related to a thesis. Enrollment in Independent Study (G) is limited to students who have been admitted to a master's degree program at Bridgewater State College. The number of credits earned in Independent Study (G) plus those earned in conjunction with a thesis may not total more than 10 for students enrolled in an M.Ed. program.

LI 548 Advanced Cataloguing and Classification G**3 credits**

Gives primary consideration to the Library of Congress classification and subject headings. Some attention will be given to non-book materials. Prerequisite: LI 440.

LI 553 The History of Libraries G**3 credits**

Form and function of the library as an institution in social and intellectual settings. Included are classical, medieval, and scholarly libraries; the development of modern public and academic libraries, and the school library movement, particularly in Massachusetts.

LI 566 Systems Approach to Libraries (Automation in the Library) G 3 credits

Survey of developments in information retrieval and other library applications of modern procedures in acquisition, circulation, management, and periodical control.

LI 569 The Book Arts (History of the Printed Book—Seminar on the Book) G**3 credits**

Traces the development of the written word from the earliest alphabet to today's computerized publishing. The history, art, and science of the book include field study of book production; manuscripts; rare books and bindings; and award winning books.

LI 576 Research Problems in Library Literature (Research and Evaluation in Library Science) G**credit to be arranged**

Is designed for special projects for advanced students desiring individual instruction in the methods of library research. Prerequisite: permission of the Department.

LI 590 Seminar on School Librarianship G**3 credits**

Intended as a culminating exercise in administrative school librarianship. It will include study and analysis of current problems and issues in elementary and secondary school library administration. Students will seek solutions to these through reading and research. Results will be presented to class. Prerequisite: a minimum of fifteen elective credit hours toward the Master of Education in School Librarianship, and consent of the adviser.

LI 595 Professional Practicum G**3 or 6 credits**

Involves observation and participation in all important aspects of school library administration, including selection and organization of materials; reference and bibliographic services; and techniques of teaching library use.

DEPARTMENT OF SECONDARY EDUCATION**Chairman: Associate Professor Baker****Professors: MacCurdy, Meier****Associate Professor: Kelley****Assistant Professor: Jones**

The Department of Secondary Education, in conjunction with most of the academic departments, offers a program leading to the degree of Master of Education in Secondary Education with a concentration in an academic area. This program permits a student to take all of his electives in the area of concentration or to distribute his electives between the area of concentration and professional education. All electives must be approved, in advance, by the adviser. Those interested in this degree program should consult the appropriate academic department for further information. Departmental offerings are listed below.

ED 310 Principles of Secondary Education UG**3 credits**

A study of the secondary schools in a democratic society with a particular stress on the following problems: history, philosophy, objectives, curriculum, structure, articulation, the learning process, methods, materials, individual differences, discipline, management and evaluation. Students become involved in helpful learning experiences in the educational community and learn from personal contact how the secondary schools are attempting to solve their problems.

Secondary Education**3 credits each****ED 312 Teaching Social Studies in the Secondary School UG****ED 314 Teaching English in the Secondary School UG****ED 319 Teaching Science in the Secondary School UG****ED 322 Teaching Mathematics in the Secondary School UG****ED 324 Teaching Modern Foreign Language in the Secondary School UG****ED 440 Methods and Materials in Secondary Education UG****3 credits**

Emphasis will be placed on the analysis of the problems of the modern secondary school. Topics will include: the learning process; establishing of objectives; classroom organization and management; meeting individual differences; evaluation; correlation between subject matter fields; and recent developments in methodology and subject matter. Primarily for those interested in gaining certification, undergraduates with no teaching experience, and teachers who have been away from the classroom for many years. Prerequisite: PY 200.

ED 443 Secondary School Curriculum UG**3 credits**

Purposes of the modern secondary school and the curriculum needed to implement them: historical origins, evolution, modern development and future possibilities. Planning curriculum guides, participating in evaluations and national curriculum committee work will be stressed.

DIVISION OF SOCIAL SCIENCES
DIRECTOR: PROFESSOR FIORE**Economics****History****Political Science****DEPARTMENT OF ECONOMICS**

Acting Chairman: Professor Fiore
Instructors: Antoniotti, Freeman

The Department of Economics does not offer a program leading to the master's degree at this time. Economics courses may be taken, in partial fulfillment of the social sciences concentration for the degree of Master of Education in Secondary Education with a concentration in the social sciences, if approved by the adviser.

The following courses may be taken for graduate credit. Certain of these courses may be required as degree and/or course prerequisites, and credit earned in them may not be counted toward meeting the minimum degree requirements of thirty graduate credits. In addition, the department may require degree and/or course prerequisites in other departments. When a course is approved for degree credit by the faculty adviser, credits earned with acceptable grades may be used in partial fulfillment of degree requirements.

EC 320 Comparative Economic Systems UG**3 credits**

Analysis of central economic problems faced by nations in organizing economic activity; comparison of theories and institutions of capitalism and liberal socialism.

EC 400 Economic Principles and Problems UG**3 credits**

Significant economic concepts, institutions, and problems of a free enterprise system.

EC 420 Principles of Investment UG**3 credits**

Introduction to mechanics of stock market and analysis of various investment media for individual investment portfolios.

EC 502 Thesis G**credit to be arranged**

Original research directly related to a thesis. A maximum of 6 credits may be earned in conjunction with an M.Ed. program. Prerequisite: Approval of the adviser and the departmental chairman.

EC 503 Independent Study G**credit to be arranged**

Investigation and/or research not directly related to a thesis. Enrollment in Independent Study (G) is limited to students who have been admitted to a master's degree program at Bridgewater State College. The number of credits earned in Independent Study (G) plus those earned in conjunction with a thesis may not total more than 10 for students enrolled in an M.Ed. program.

DEPARTMENT OF HISTORY**Chairman: Professor Fiore****Commonwealth Professor: Melville****Professors: Bates, Cole, Herrick, Husek****Associate Professors: Doiron, Keay, Noel, Oien, Rotstein, Spence****Assistant Professors: Christensen, Lythgoe, Myers, O'Connell, Silvia, Wolff****Instructors: Culver, Stonehouse****Master of Arts**

The Department of History offers a program leading to the degree of Master of Arts in History, which is designed to prepare qualified students for research, further graduate study and teaching. An undergraduate major in history, or its equivalent, is normally required for admission to this program.

In addition to meeting general degree requirements, the student must complete courses appropriate to his degree program.

Interested persons are asked to make an appointment with the Chairman of the Department.

Master of Education

The Department also offers a program leading to the degree of Master of Education in Secondary Education with a concentration in history. This program is designed for teachers and future teachers of history and social science teachers. It also prepares students for further graduate work in history.

In addition to meeting general degree requirements, the student must complete the departmental concentration requirement by electing courses appropriate to his degree program.

Course Offerings

The following courses may be taken for graduate credit. Certain of these

courses may be required as degree and/or course prerequisites, and credit earned in them may not be counted toward meeting the minimum degree requirements of thirty graduate credits. In addition, the department may require degree and/or course prerequisites in other departments. When a course is approved for degree credit by the faculty adviser, credits earned with acceptable grades may be used in partial fulfillment of degree requirements.

HI 315 Nineteenth Century Europe UG **3 credits**

From the Congress of Vienna to the First World War.

HI 316 Twentieth Century Europe UG **3 credits**

Particular focus on the background, development and effects of the two world wars.

HI 317 British Political History Since 1603 UG **3 credits**

England and her empire to 1815 with stress on parallel developments in American history, including economic and social factors.

HI 318 British Empire and Commonwealth UG **3 credits**

Political development to the present with emphasis on the rise and fall of the Second Empire.

HI 325 American Labor History UG **3 credits**

The pre-industrial and industrial periods. Emphasis on the reciprocal relationships of workingmen, Negroes, immigrants and urbanization and industrialization.

HI 326 The American West UG **3 credits**

The West as place, including Westward Movement, but emphasizing the distinguishing character of the region in its economic, social, political, and intellectual life. Asst. Prof. Lythgoe.

HI 333 Spanish America: The Colonial Period UG **3 credits**

Indigenous peoples of the area; exploration and conquest, institutional development of the empire to the revolts against Spain in the nineteenth century.

HI 334 Spanish America: The National Period UG **3 credits**

From the revolutions against Spain to the present. Concentration on Mexico and two or three other states.

HI 343 The Ancient World: Near East and Greece UG **3 credits**

From prehistoric times to the Hellenistic Empires.

HI 344 The Ancient World: Rome UG **3 credits**

From its beginnings to the barbaric invasions.

HI 353 Historiography UG 3 credits

Writings of major historians; evaluation through professional journals and book reviews. Limited to fifteen. Students are expected to elect HI 354.

HI 354 Study and Writing of History UG 3 credits

The techniques of historical research and preparation of papers requiring such techniques. Analysis and evaluation of source materials will be stressed. Prerequisite: HI 353.

HI 413 Contemporary Affairs UG 3 credits

National and international problems, using magazines, newspapers, telecasts and recent books. Political, economic, social and scientific developments.

HI 415 Modern Russia to 1917 UG 3 credits

Political, social, and economic factors in the history of Russia from the end of the fifteenth century to the Revolution will be considered.

HI 416 History of the U.S.S.R. UG 3 credits

The political, social, intellectual, and diplomatic development of Russia will be considered. Prerequisite: HI 415 and a survey course in European history.

HI 419 Intellectual History of Modern Europe UG 3 credits

From the Renaissance to the present.

HI 421 History of Massachusetts UG 3 credits

From the days of the Pilgrims and Puritans to the present. In the modern period emphasis is on social, economic, and constitutional history.

HI 423 Social and Intellectual History of the U.S. to 1870 UG 3 credits

Economic, social, and cultural development to the end of the Civil War.

HI 424 Social and Intellectual History of the U.S., 1870-1920 UG 3 credits

Economic, social, and cultural development from the end of the Civil War to the end of World War II.

HI 426 History of the American City UG 3 credits

Political, architectural, economic, social, cultural, and population factors in the growth and development of American cities since colonial times.

HI 427 American Immigration History UG 3 credits

Patterns of migration to the United States with particular emphasis on the nineteenth and twentieth centuries.

HI 428 American Economic History UG	3 credits
Economic development of the United States with particular emphasis on the period of industrial development.	
HI 430 Europe in the Middle Ages UG	3 credits
From the fall of Rome to the Renaissance.	
HI 432 Modern European Imperialism UG	3 credits
Africa and Asia considered as contrasting phases of European expansion in the nineteenth and twentieth centuries.	
HI 433 Africa Since 1800 UG	3 credits
The impact of Islamic and European cultures on the peoples of Africa; creation of colonial empires.	
HI 436 The Renaissance and the Reformation UG	3 credits
Western Europe from the decline of feudal institutions to the emergence of the modern state system, with emphasis on cultural and intellectual affairs.	
HI 437 Modern France UG	3 credits
From the Revolution of 1789 to the present.	
HI 441 American Negro History UG	3 credits
From the colonial period to the present.	
HI 461 History of East Asia UG	3 credits
Emphasis on China and Japan in the nineteenth and twentieth centuries.	
HI 481 United States Foreign Relations to 1900 UG	3 credits
From the American Revolution to 1900.	
HI 482 United States Foreign Relations since 1900 UG	3 credits
United States foreign relations since 1900.	
HI 483 United States History: Progressive Era UG	3 credits
The rise of the Progressive movement in American history to the early 1920's as reflected in politics, government, and the social and intellectual life of the era.	
HI 484 Recent American History UG	3 credits
Development of the modern America through the isolationism and boom of the 1920's, the Great Depression, the New Deal, World War II, and the role of the United States in the post-war world will be considered.	

HI 485 United States History: The Civil War UG**3 credits**

Background and causes of the American Revolution, the military and naval aspects, Civil War music, art, and literature, diplomacy of the Civil War, the home front in the war, the plans for reconstruction, and military reconstruction. Lectures will be supplemented by slides, motion pictures, and recordings.

HI 487 The American Revolution 1763-1787 UG**3 credits**

Background and causes of the American Revolution, the military, social, political, and diplomatic aspects of the Revolution. The government under the Articles of Confederation, and the problems engendered by the attainment of political independence.

HI 488 United States History: The Colonial Period 1607-1763 UG**3 credits**

The settlement and growth of the English colonies in America, England's colonial policies, economic and institutional development in the provincial period, the wars with the Indians, the rivalry with the French in America.

HI 489 United States History: The Early National Period UG**3 credits**

The course of United States history from the establishment of the republic to the election of Andrew Jackson will be studied.

HI 490 Jacksonian Democracy and the Coming of the Civil War UG**3 credits**

The election of Andrew Jackson and the "rise of the common man," the Whig-Democrat rivalry, the Texas question, Manifest Destiny, the rise of abolitionism, the events leading to the outbreak of the Civil War.

HI 491 English History to 1603 UG**3 credits**

From Roman times to the accession of the Stuart dynasty.

HI 493 Modern German History UG**3 credits**

From the reign of Frederick the Great to the end of World War II.

HI 501 Seminar in Historical Methodology G**3 credits**

The basic methods of historical research and historical writing and the proper use of primary and secondary sources, bibliography; documentation, and annotation will be studied. Varieties, analysis and evaluation of source materials and construction of narrative will be considered.

HI 502 Thesis G**credit to be arranged**

Original research directly related to a thesis. A maximum of 10 credits may be earned in conjunction with an M.A. program. A maximum of 6 credits may be earned in conjunction with an M.Ed. program. Prerequisite: Approval of the adviser and the departmental chairman.

HI 503 Independent Study G**credit to be arranged**

Investigation and/or research not directly related to a thesis. Enrollment in Independent Study (G) is limited to students who have been admitted to a master's degree program at Bridgewater State College. The number of credits earned in Independent Study (G) plus those earned in conjunction with a thesis may not total more than 15 for students enrolled in an M.A. program or 10 for students enrolled in an M.Ed. program.

DEPARTMENT OF POLITICAL SCIENCE**Chairman: Professor Larson****Assistant Professors: Clifford, Yin**

The Department of Political Science does not offer a program leading to the master's degree at this time. Political science courses may be taken, in partial fulfillment of the social sciences concentration for the degree of Master of Education in Secondary Education with a concentration in the social sciences or in partial fulfillment of the history concentration for the degree of Master of Education in Secondary Education with a concentration in history, if approved by the adviser.

The following courses may be taken for graduate credit. Certain of these courses may be required as degree and/or course prerequisites, and credit earned in them may not be counted toward meeting the minimum degree requirements of thirty graduate credits. In addition, the department may require degree and/or course prerequisites in other departments. When a course is approved for degree credit by the faculty adviser, credits earned with acceptable grades may be used in partial fulfillment of degree requirements.

PO 271 Introduction to Political Science UG**3 credits**

Political ideas of major thinkers from Plato to the present.

PO 272 American Government: The Federal System UG**3 credits**

The constitutional authority, organization, activities, and political processes of the national government.

PO 272 U. S. and Massachusetts Constitution UG**Audit**

Structure of government and rights and responsibilities according to Federal and Commonwealth constitutions.

PO 371 Comparative Government UG**3 credits**

Political behavior and governmental systems in Great Britain, West Germany, France, and the Soviet Union.

PO 372 Legislative Process and Procedure UG 3 credits

The role of legislatures in modern American government, federal and state; the relationship of the voter and of apportionment to lawmaking; the two-party system and its impact on the lawmaking process; the committee system and seniority; and constitutional limitations on legislatures.

PO 374 Political Thought: Modern and Contemporary UG 3 credits

The ideas of major political thinkers in the era of the modern nation-state.

PO 375 Political Parties UG 3 credits

The historical development of the American party system, and contemporary aspects of its functioning, at the national, state, and local level.

PO 377 American Government: State and Local Government UG 3 credits

Government and politics with emphasis on Massachusetts affairs.

PO 379 Introduction to Public Administration UG 3 credits

The relationship of the administrative branch of government to other branches, in the making and implementation of public policy; theories of government organization for efficient administration; problems of budgeting, personnel, merit systems, types of agency organization, popular control over the bureaucracy, etc.

PO 471 International Relations UG 3 credits

The patterns of inter-state relations, the development of international law, and the factors motivating the behavior of nations.

PO 502 Thesis G credit to be arranged

Original research directly related to a thesis. A maximum of 6 credits may be earned in conjunction with an M.Ed. program. Prerequisite: Approval of the adviser and the departmental chairman.

PO 503 Independent Study G credit to be arranged

Investigation and/or research not directly related to a thesis. Enrollment in Independent Study (G) is limited to students who have been admitted to a master's degree program at Bridgewater State College. The number of credits earned in Independent Study (G) plus those earned in conjunction with a thesis may not total more than 10 for students enrolled in an M.Ed. program.

**BRIDGEWATER
STATE COLLEGE**



BRIDGEWATER, MASS. 02324

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DIRECTIONS FOR CORRESPONDENCE

The general address for all correspondence is: Bridgewater State College, Bridgewater, Massachusetts 02324. In order to avoid delay, correspondents are requested to note the following directions.

Requests for undergraduate catalogs should be addressed to the Registrar. Requests for catalogs of the Graduate School should be sent to the Office of the Graduate School.

Requests for brochures of the Division of Continuing Studies should be addressed to the Office of the Division of Continuing Studies.

Inquiries concerning requirements for concentrations and majors in a given department should be addressed to the chairman of that department.

Requests for transcripts should be sent as follows:

Students who hold a bachelor's and/or a master's degree from this college should write to the Registrar.

Students who have not completed their bachelor's degree should write to the Registrar for a transcript of courses taken through the Day Session, and to the Director of Continuing Studies for a transcript of courses taken through the Division of Continuing Studies.

Students who have earned their baccalaureate but who have not completed their master's degree at Bridgewater State College, should write to the Director of Continuing Studies for a transcript of courses taken in the Division of Continuing Studies and to the Registrar for transcripts of courses taken in the Day Session.

There is a charge of \$1.00 per transcript.

Inquiries concerning employment, health services, housing, loans, and scholarships, should be addressed to the Director of Student Personnel.

Inquiries concerning the Summer Session at Bridgewater State College should be addressed to the Director of Continuing Studies.

Inquiries concerning the Summer Session at Hyannis should be addressed to the Director of the Hyannis Summer Session.

Inquiries relative to the Graduate School should be addressed to the Dean of the Graduate School.

Inquiries concerning placement and student teaching should be addressed to the Director of Teacher Preparation and Placement.

Inquiries concerning Continuing Studies should be addressed to the Director of Continuing Studies.

Inquiries concerning financial aid should be addressed to the Financial Aid Officer.

Inquiries concerning alumni affairs should be addressed to the Executive Secretary of the Alumni Association.

Inquiries concerning academic employment should be addressed to the chairman of the appropriate department.

Inquiries concerning non-academic employment should be addressed to the Assistant to the President.

Inquiries concerning teacher certification should be addressed to the Director of Teacher Certification, Department of Education, 182 Tremont Street, Boston, Massachusetts, 02111.

Matters not covered above, and correspondence bearing upon the general interests of the College, should be addressed to the President.

